

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

**IN RE: DOMESTIC DRYWALL
ANTITRUST LITIGATION**

THIS DOCUMENT RELATES TO:

All Direct Purchaser Actions

**MDL No. 2437
13-MD-2437**

**MEMORANDUM RE:
Direct Purchaser Plaintiffs' Motion for Class Certification**

Baylson, J.

August 23, 2017

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I. Introduction

In the fall of 2011, several gypsum wallboard (drywall) manufacturers in the United States announced substantial changes to their pricing. These announcements ended a long-standing pricing practice called “job quotes” and scheduled a very large price increase to commence in January 2012 and to be effective for the entire year. Then, in fall 2012, the same manufacturers again announced a similar price increase to take effect in January 2013. In this multidistrict litigation (“MDL”), Plaintiffs allege that the Defendants’ 2012 and 2013 price increases and other changes in pricing practices were the result of an agreement, in violation of federal and state antitrust laws.

At the outset of the Direct and Indirect Purchaser actions,¹ a consensus was reached among counsel and the Court that discovery would be initially limited to whether there was an agreement between any Defendants in violation of Sherman Act § 1. (ECF 64). As a result, the Court postponed discovery on class certification issues. After the first-phase of discovery period was completed, with intra-party and third-party discovery, the Court set a deadline for Defendants to move for summary judgment. Following extensive briefing and argument, the Court filed an 85 page detailed opinion denying summary judgment as to all but one Defendant, Certainteed. In re Domestic Drywall Antitrust Litig., 163 F. Supp. 3d 175 (E.D. Pa. 2016).

The review of the evidence at the summary judgment phase deserves an important role in the “rigorous” examination required on the class action question, particularly as to whether common questions predominate, and more specifically, whether plaintiffs can prove antitrust

¹ This MDL initially comprised actions from two groups of Plaintiffs: Direct Purchaser Plaintiffs and Indirect Purchaser Plaintiffs. After those actions had been proceeding for some time, a third group of plaintiffs filed suit – these are what have been referred to as the “Homebuilder Plaintiffs.” The Homebuilder Plaintiffs do not seek to pursue their claims as a class, and their cases have been proceeding on a separate track than the class cases.

impact and measurable damages on a classwide basis. The class action issues must pay respect to these findings, because as the Third Circuit has clearly annunciated, the class action issues, particularly predominance, may require some “overlap” with the merits. See In re Hydrogen Peroxide Antitrust Litig., 552 F.3d 305 (3d Cir. 2008), as amended (Jan. 16, 2009).

Presently before the Court is the Direct Purchaser Plaintiffs’ (“DPPs” or “Plaintiffs”) Motion for Class Certification.² (ECF 431). Related to this motion is Defendants’ Daubert Motion to Preclude the Testimony of Plaintiffs’ Expert, Dr. Russell Lamb. (ECF 475). The Court previously ruled on the Motion to Preclude, and held that Dr. Lamb’s expert opinion and testimony are admissible, and will be considered here in support of DPPs’ Motion for Class Certification. (ECF 584).

The Court has considered all submissions by the parties on the Motion for Class Certification, which include DPPs’ motion and opening brief (ECF 431, 432, 433), Defendants’ joint response in opposition (ECF 476), and DPPs’ reply (ECF 530). The Court has carefully considered the expert reports submitted by Plaintiffs’ expert Dr. Russel Lamb in support of Class Certification, and the reports of Defendants’ expert Dr. Jerry Hausman in opposition to Class Certification.³

In addition, the Court heard oral argument on March 8, 2017,⁴ and, to more thoroughly assess the experts’ opinions, the Court held an evidentiary hearing on April 25 and 27, during

² Up until this point in the case, the Direct and Indirect Purchaser cases had proceeded together. However, because the class certification stage presents varying issues for these two putative classes, the briefing schedules on class certification diverged.

³ Each expert submitted an initial class report, followed by a supplemental class report. See ECF 433, Ex. 1 (Lamb class report); ECF 476, Ex. 1 (Hausman opposition report); ECF 530, Ex. 63 (Lamb reply report); ECF 579 (Hausman supplemental report). These reports have been carefully considered.

⁴ Transcript, ECF 565.

which both experts testified and were subject to cross-examination.⁵ Following the evidentiary hearing, the parties submitted post-hearing briefing. Then, to help with its understanding of the econometric issues raised by the expert reports, the Court appointed a technical advisor, Dr. Jeffrey Church of the University of Calgary. Dr. Church submitted a report. Pursuant to the Court's invitation, the Parties responded to Dr. Church's Report.

After considering all written submissions by the parties, oral argument of counsel, the testimony and reports of the parties' experts, and the Technical Advisor's report, the DPPs' Motion for Class Certification is GRANTED.

II. Overview of Summary Judgment Opinion

In denying the remaining Defendants' Summary Judgment motions, the Court found that Plaintiffs had created a genuine dispute of fact as to whether there was an agreement among the remaining Defendants to fix prices. Although this opinion will not repeat in great detail the findings on summary judgment, a brief outline of those findings will provide appropriate background for the class action discussion.

Regarding the conditions of the Drywall market at the time of the alleged conspiracy, at summary judgment, the Court noted that it was undisputed that leading up to the outset of the alleged conspiracy, demand for drywall was low, having experienced a significant decline following the housing crisis. In re Domestic Drywall Antitrust Litig., 163 F. Supp. 3d 175, 195 (E.D. Pa. 2016). Plaintiffs also presented evidence that prior to the alleged conspiratorial price increase, Defendants were operating at less than full capacity. Id. at 195–96. Further, there was evidence that Defendants had attempted to raise prices in the past but had failed to do so. Id. at 222–232.

⁵ Transcripts, ECF 587 & 588.

At summary judgment, Plaintiffs presented evidence of communications between the alleged co-conspirators, relying in particular on four sets of exchanges between them. Id. at 237. The Court credited this evidence, noting that while there are many permissible reasons why competitors may be communicating with one another, when considered as a whole with the remainder of the evidence presented, it raised a reasonable inference about an agreement among some Defendants. Id. at 237–38. In addition, Plaintiffs presented evidence that at least two Defendants had used research analysts at Thompson Research Group and Longbow Communications as conduits through which to communicate and further the alleged conspiracy. Id. at 241.

Further, Plaintiffs presented evidence regarding Defendants’ parallel price increases in January 2012 and January 2013, as well as corresponding elimination of job quotes. Id. at 231–37. The Court held that this evidence could allow a jury to find that the elimination of job quotes price increases was a radical or drastic shift in behavior, given the longstanding nature of the practice in the industry, dating back to the 1980s. Id. at 255. Plaintiffs also presented evidence that could allow a reasonable inference that Defendants ensured the effectiveness of the price increase through restricting supply and refusing to compete for customers or market share. Id. at 248–251.

The Court made admissibility findings under Federal Rule of Evidence 104, which led to a conclusion, as a preliminary question, that Plaintiffs had presented admissible evidence that could lead to the conclusion that six of seven Defendants entered into an agreement to fix prices. Id. at 228. The Court summarized the evidence with a chart showing announcement dates and effective dates, and amount of price increases for each Defendant – which graphically shows great similarity. This evidence included further detail regarding the price increases and the

manner in which they were implemented (id. at 235), evidence in support of the conduit theory of communicating (id. at 242), evidence that Defendants had limited supply prior to effectuating the increases (id. at 248), and evidence that Defendants declined to compete for customers (id. at 250).

The Court also found that the drywall industry contained a number of “structural” elements, including oligopolistic behavior. Finally, the Court found that Plaintiffs had shown evidence to support the “plus factors” that the Third Circuit has held relevant to determine whether an agreement to fix prices was achieved in an oligopolistic market, including motive and actions against self-interest.

III. Proposed Class and Class Certification Standard

Plaintiffs seek certification of a class of “all persons or entities that purchased Paper-Backed Gypsum Wallboard in the United States from January 1, 2012 through January 31, 2013” directly from Defendants or their wholly-owned subsidiaries. DPP Mot. at 17. The proposed class is composed of about 14,000 entities, and includes “distributors, buying cooperatives, and contractors.” Id.

Plaintiffs seek certification under Federal Rule of Civil Procedure 23(b)(3). To be certified under this rule, Plaintiffs must meet the prerequisites set forth in Federal Rule of Civil Procedure 23(a), as well as the requirements in Rule 23(b)(3). As the Third Circuit clarified in Hydrogen Peroxide, 552 F.3d 305, plaintiffs bear the burden to establish each requirement by a preponderance of the evidence. Id. at 320. In determining whether or not the Plaintiffs have met these requirements, the District Court must undertake a “rigorous analysis” of the evidence, even if its determinations on class certification issues overlap with the merits of the case. Id. at 309, 317.

A. Standing

As a threshold issue, Defendants argue that three named plaintiffs – Grubb Lumber, Sierra Drywall, and Janicki Drywall – do not have antitrust standing to bring their claims because they did not purchase any drywall directly from Defendants during the class period, but rather purchased from L&W Supply Corporation (“L&W”), a wholly-owned subsidiary of Defendant USG Corp.⁶ In addition, Defendants argue that the fourth named plaintiff, New Deal Lumber, lacks Article III standing because it obtained its claim through invalid assignment.

1. L&W Purchasers

The proposed class definition of the Direct Purchaser class includes plaintiffs who purchased directly from the wholly-owned subsidiaries of Defendants, which includes those who purchased from L&W Supply. Three named plaintiffs (Sierra, Janicki, and Grubb) are L&W Purchasers. Defendants argue that the L&W purchasers do not qualify as direct purchasers. As a result, Defendants argue that under Illinois Brick Co. v. Illinois, 431 U.S. 720 (1977), these plaintiffs lack standing to bring federal antitrust claims. Plaintiffs do not dispute that under Illinois Brick, indirect purchasers generally lack antitrust standing. However, Plaintiffs counter that a well-recognized exception to the Illinois Brick rule is the “control exception,” which allows antitrust claims by the “first non-controlled purchaser,” and that L&W purchasers’ claims fall within this exception. Defendants argue that the control exception is of “questionable validity in the Third Circuit,” and even if it were good law, L&W purchasers do not fall within its definition.

⁶ Defendant, USG Corp. is the parent company to two wholly-owned subsidiaries, L&W and United States Gypsum (“US Gypsum”). US Gypsum is a Defendant in this case, but L&W is not.

Under the control exception, antitrust claims are permitted by those who purchased from an entity that was the initial purchaser of the price-fixed good, where the initial purchaser is owned, dominated, and controlled by a defendant. See Howard Hess Dental Labs, Inc. v. Dentsply Int'l, Inc., 424 F.3d 363, 372 (3d Cir. 2005); see also Mid-West Paper Prod. Co. v. Cont'l Grp., Inc., 596 F.2d 573, 589 (3d Cir. 1979). Here the initial purchaser is L&W, which Plaintiffs allege is owned, dominated, and controlled by its parent company, Defendant USG Corp. Defendants argue that the control exception is no longer recognized in this Circuit following the Supreme Court's decision in Kansas v. UtilCorp United, Inc., 497 U.S. 199 (1990). This Court disagrees.

The control exception to the Illinois Brick bar on indirect purchaser antitrust damages claims was recognized in Illinois Brick itself. The case cited by Defendants, UtilCorp, did not eviscerate the already-established Illinois Brick exceptions, but rather limited the application of those exceptions. At its core, UtilCorp stands for the proposition that case-by-case policy arguments by creative indirect purchasers will not be permitted.

Indeed, the cases decided after UtilCorp confirm this reading. The Third Circuit most recently examined the control exception in Hess, 424 F.3d at 372. Though it ultimately concluded that the exception did not apply to the plaintiffs in the case before it, the panel did not question the availability of the control exception generally. The Third Circuit's decision in Hess does not suggest an abandonment of the control exception; rather it can be seen as an application of UtilCorp, implementing guardrails to the Illinois Brick exceptions. Hess, 424 F. 3d at 372; accord In re Lower Lake Erie Iron Ore Antitrust Litig., 996 F.2d 1144, 1167 nn. 20 & 21 (3d Cir. 1993). Other Circuits have treated UtilCorp similarly. See, e.g., In re ATM Fee Antitrust Litig.,

686 F.3d 741, 749 (9th Cir. 2012); Dickson v. Microsoft Corp., 309 F.3d 193, 214 (4th Cir. 2002).

Here, the L&W purchasers fall squarely within the control exception to the Illinois Brick rule, and will be considered direct purchasers in this litigation. Plaintiffs have presented ample evidence to suggest that USG Corp. directed the pricing strategy of L&W, and generally controlled the relevant actions of L&W. This includes overlap in leadership, corporate structure of the USG entities, communications between USG Corp. and L&W, and communications regarding the USG Corp. / L&W relationship between other Defendants. See DPP Reply pp. 101–108. The evidence that Defendants point to in response is unpersuasive, because it largely relates to the relationship between L&W and its sister company, US Gypsum, rather than between L&W and its parent, USG Corp. See Def. Br. pp. 57–61.

2. New Deal Lumber

Defendants argue that the fourth named Plaintiff, New Deal Lumber (“New Deal”), lacks standing. New Deal bought drywall through Philadelphia Reserve Supply Company (“PRSCO”), which is a purchasing co-operative for building materials dealers. New Deal contends that it has standing to pursue its claim through two separate avenues: (1) its ownership interest in PRSCO and role on PRSCO’s Board of Directors, and (2) through PRSCO’s assignment of its claims to New Deal.

Defendants do not address whether New Deal has standing through its ownership and position within PRSCO, but they argue that PRSCO’s claim assignment to New Deal was insufficient to confer standing for two reasons. First, Defendants argue that the assignment was invalid because it was not approved by the PRSCO board, and without that approval, the president of PRSCO lacked the authority to make the assignment. Second, Defendants argue that

the PRSCO Board's subsequent reassignment of claims to New Deal was insufficient to cure this deficiency because it occurred after New Deal had filed its complaint.

i. New Deal's ownership interest in PRSCO does not confer Direct Purchaser standing

Plaintiffs cite In re OSB Antitrust Litigation, No. 06-md-826, 2007 WL 2253418 (E.D. Pa. Aug 3, 2007) in support of their assertion that members of group buying organizations with a significant ownership interest in the organization, or functional control over the organization, necessarily have standing as direct purchasers. OSB does not stand for that proposition. Rather, Judge Diamond in OSB analyzed members of group buying organizations under the control exception to the Illinois Brick rule, discussed *supra*.

DPPs do not present evidence that New Deal “dominated” or “controlled” PRSCO. Instead, they point to deposition testimony merely indicating that New Deal was a part owner of PRSCO, and that the owner of New Deal served on PRSCO's board in senior leadership positions. See DPP Mot. p. 30 & n. 34; DPP Reply p. 109 & n. 155. There is no evidence regarding the level of influence or control that New Deal may have exercised over PRSCO. Indeed, the owner of New Deal (Mr. Phil Miller) admitted at his deposition that the President of PRSCO (not New Deal or Mr. Miller) was the person who negotiated the specific purchasing terms on behalf of PRSCO. See DPP Mot. Exh. 36 (Miller Dep. Tr.) at 117:23–118:8. As a result, according to the case DPPs cite, DPPs have not presented sufficient evidence for the Court to conclude that New Deal had standing by virtue of its ownership and position within PRSCO.

- ii. *PRSCO validly assigned its claims to New Deal, and as a result, New Deal has standing to pursue its claims*

Antitrust claims can be assigned. See Wallach v. Eaton Corp., 837 F.3d 356, 366 (3d Cir. 2016) (“[A]n indirect purchaser may step into the shoes of a direct purchaser and bring an antitrust suit in that capacity if it receives a valid assignment of a direct purchaser’s antitrust claims”). In order to be effective, the assignment must expressly relate to antitrust claims; a general assignment is insufficient. See Gulfstream III Assocs. v. Gulfstream Aerospace Corp., 995 F.2d 425, 437–39 (3d Cir. 1993). No consideration is necessary to make express assignment of antitrust claims valid. See Wallach, 837 F.3d at 371 (examining Illinois Brick rationale and concluding that requiring consideration in support of assignment would run contrary to those goals).

Here, Plaintiffs have presented evidence that PRSCO expressly assigned its claims to New Deal, attaching an assignment of claims signed by PRSCO President, Kim Coleman. DPP Mot. Exh. 38 (“2013 Assignment”). From the face of this document, PRSCO expressly and validly assigned its claims to New Deal on March 6, 2013. Plaintiffs also submit evidence that in April 2015, the PRSCO Board explicitly resolved that Kim Coleman had the authority to execute the 2013 Assignment. DPP Mot. Exh. 39 (“2015 Reauthorization”).

Defendants argue that the 2013 Assignment was invalid. In support, Defendants point to the deposition of Mr. Coleman, in which he testifies that he did not seek board approval for the assignment, and that he did not believe, in retrospect, the 2013 Assignment to be valid. See Def. Br. pp. 64–65 & Exh. 63 (Coleman Dep. Tr.). Further, Defendants point to August 2014 Board meeting minutes, which indicate that the board adopted the position that the 2013 Assignment was not valid because “Kim Coleman was not President at the time and had no apparent authority to sign the document.” See Def. Br. Exh. 65. Defendants argue that the 2015

Reauthorization is an admission that the 2013 Assignment was invalid, and that because the reauthorization took place after the operative Complaint was filed, it was insufficient to cure the standing deficiency. See Def. Br. p. 65.

Defendants' challenges are not sufficient for the Court to hold the 2013 Assignment invalid. The evidence shows that Mr. Coleman was the President of PRSCO on March 6, 2013, and that he executed the 2013 Assignment in that capacity. His later deposition testimony expressing regret over having signed the assignment is not a legal basis to declare the assignment invalid. Further, the 2014 Board minutes have no legal import – at best they are a memorialization of the board's collective regret. In addition, the 2015 Reauthorization is not an admission that the 2013 Assignment was invalid; it is, as Plaintiffs put it, “belt and suspenders” in support of valid assignment. The assignment from PRSCO to New Deal was valid, and New Deal has standing to pursue its claims.

B. Rule 23(a) Prerequisites

1. Numerosity

Rule 23(a)(1) requires that the class be so numerous that joinder of all class members be “impracticable.” Though there is no minimum number to meet this threshold, the Third Circuit has held that a proposed class of at least 40 members will satisfy the numerosity requirement. See Stewart v. Abraham, 275 F.3d 220, 227 (3d Cir. 2001). Here, Plaintiffs seek to certify a class of approximately 14,000 entities, and Defendants do not challenge Plaintiffs' ability to meet this requirement. DPP Mot. at 17. The numerosity requirement is met.

2. Commonality

The commonality prerequisite contained in Rule 23(a)(2) requires that there be questions of fact or law that are common to the class. The Third Circuit has held that the bar to meeting

this requirement is not a high one – a single common question can suffice. Rodriguez v. Nat'l City Bank, 726 F.3d 372, 382 (3d Cir. 2013). The question of whether there was an agreement to fix prices here is common to all class members, and is critical to all class members' claims. Defendants do not argue otherwise. The commonality requirement is met.

3. Typicality and Adequacy

Typicality and adequacy, though separate requirements, are closely related and are often analyzed together. Amchem Prod., Inc. v. Windsor, 521 U.S. 591, 625–26 & n. 20 (1997). Both requirements attempt to prevent potential conflicts between the class representatives and the class members. Id.

Rule 23(a)(3) requires that the claims or defenses of the representative parties are typical of the claims or defenses of the class. The purpose of the typicality requirement is to ensure that the class representatives are similarly situated to the rest of the class so that their representation of the class as a whole is fair. In re Schering Plough Corp. ERISA Litig., 589 F.3d 585, 597 (3d Cir. 2009) (noting that representatives should align with the class as to their legal claims, factual circumstances, and stake in the litigation). By requiring that the representatives' interests align with those of the class, the court can then be sure that the representatives will work to benefit the entire class. Pichler v. UNITE, 228 F.R.D. 230, 250 (E.D. Pa. 2005), aff'd, 542 F.3d 380 (3d Cir. 2008).

Notably, variation in factual situations between the class representative and the other class members does not defeat typicality “if the claim arises from the same event or practice or course of conduct that gives rise to the claims of the class members.” In re Schering Plough, 589 F.3d at 598 (internal citations omitted); see also Newton v. Merrill Lynch, Pierce, Fenner & Smith, 259 F.3d 154, 184 (3d Cir. 2001). However, “a proposed class representative is not

typical under Rule 23(a)(3) if ‘the representative is subject to a unique defense that is likely to become a major focus of the litigation.’” In re Schering Plough, 589 F.3d at 598 (citing Beck v. Maximus, Inc., 457 F.3d 291, 301 (3d Cir. 2006)).

Rule 23(a)(4) requires that the class representatives will “fairly and adequately protect the interests of the class,” and relates both to the class representatives and their counsel. Under this requirement, the court must (1) ensure that the named plaintiff and its counsel have the ability and the incentive to represent the claims of the class vigorously, and (2) that there is no conflict between the individual’s claims and those asserted on behalf of the class. Dewey v. Volkswagen Aktiengesellschaft, 681 F.3d 170, 181 (3d Cir. 2012). If there are intra-class conflicts, the court should ask whether the conflict is “fundamental,” rendering the representation unfair to the unnamed class members. Id. at 184. A conflict is fundamental where some class members claim to have been harmed by the same conduct that benefitted other members of the class; a speculative conflict is not fundamental. Id.

Defendants argue that Plaintiffs have not met these requirements. Specifically, Defendants argue (i) that the class representatives are subject to unique defenses, and (ii) that the class representatives are in different factual circumstances than Defendants’ customers.

i. Unique Defenses

Defendants argue that the named plaintiffs are subject to unique defenses, which calls into question their ability to represent the class. One such unique defense relates to the standing issues discussed and resolved, *supra*, so those arguments are unpersuasive. Further, Defendants argue that separate and apart from the Illinois Brick standing rule, L&W purchasers will have to show two levels of overcharge.

DPPs counter that it is a mischaracterization of the facts and the law to argue that the defenses applicable to the L&W purchaser plaintiffs are “unique” – they are defenses that would apply to many of the proposed class members. That is, though L&W purchases only account for 7.7% of drywall purchases in terms of dollar amount, in terms of number of plaintiffs, L&W purchasers make up the majority of the proposed class.

The Court agrees that though the named Plaintiffs purchased drywall from L&W, that does not defeat typicality or adequacy. With respect to typicality, as Plaintiffs point out, the “typical” putative class member is an L&W purchaser. With respect to adequacy, there is no fundamental conflict that exists between class members who purchased from L&W and those who did not.

ii. Factual Circumstances

Defendants argue that the circumstances under which the named Plaintiffs made their drywall purchases were markedly different than Defendants’ customers. That is, the named Plaintiffs purchased drywall from L&W, in relatively small quantities. Defendants’ customers consist mostly of large mass merchandisers and gypsum specialty dealers, and account for 92.3% of class purchases. Defendants argue that this hampers the named Plaintiffs’ ability to represent the class – because they are not similarly situated factually to the class as a whole. Plaintiffs respond in part that the majority of the proposed class members purchased from L&W, and not from Defendants. Further, Plaintiffs argue that factual differences in type or size of purchaser does not defeat typicality or adequacy.

The Court agrees that the factual differences between the class members are not enough to defeat typicality and adequacy. Though they may have suffered different damages, the overall alleged scheme is the same, and the Plaintiffs’ claims are the same. See Schering Plough, 589

F.3d at 597. That is, all DPPs, regardless of size, allege that they bought drywall at an artificially high price as a result of the Defendants agreement to fix prices. Indeed, Defendants do not argue that these factual differences create fundamental conflicts between class members.

Therefore, the typicality and adequacy requirements are satisfied. Plaintiffs have met their burden as to all of the Rule 23(a) prerequisites; the Court now turns to Rule 23(b)(3).

C. Rule 23(b)(3) Requirements

Rule 23(b)(3) contains two explicit requirements (predominance and superiority), and one implied, judicially created requirement (ascertainability).

1. Implied Ascertainability Requirement

Plaintiffs seeking certification under Rule 23(b)(3) must show that the identities of the class members are ascertainable. In the Third Circuit, the ascertainability inquiry is two-fold. First, plaintiffs must show that the class is defined with reference to objective criteria, then second, that there is a reliable and administratively feasible mechanism for determining whether putative class members fall within the class definition. See Carrerra v. Bayer Corp., 727 F.3d 300, 355 (3d Cir. 2013).

Here, DPPs define their putative class with reference to objective criteria – the purchase of the product at issues, the relevant Co-Conspirators, and the beginning and end dates of the class period. They propose identifying the class members primarily by using the Co-Conspirators’ transaction data. Defendants do not dispute that DPPs have met the ascertainability requirement. The DPP class is ascertainable.

2. Predominance

Rule 23(b)(3) requires that “questions of law or fact common to class members predominate over any questions affecting only individual class members.” Fed. R. Civ. P.

23(b)(3). This is the key issue underpinning the class certification dispute, and is discussed fully in Part IV, *infra*.

3. Superiority

In addition to predominance, plaintiffs seeking certification under Rule 23(b)(3) must show that “a class action is superior to other available methods for fairly and efficiently adjudicating the controversy.” Fed. R. Civ. P. 23(b)(3). In determining whether plaintiffs have met their burden on superiority, courts consider “class members’ interests in pursuing separate actions, the extent of any independent litigation already begun by class members, the desirability of concentrating the litigation in this forum, and the difficulties likely to be encountered in the management of a class action.” In re Mushroom Direct Purchaser Antitrust Litig., 319 F.R.D. 158, 208 (E.D. Pa. 2016), reconsideration denied, No. 06-0620, 2017 WL 696983 (E.D. Pa. Feb. 22, 2017) (citing Fed. R. Civ. P. 23(b)(3)(A)–(D)).

Defendants argue that a class action is not the superior method for adjudicating this case. Specifically, Defendants argue that there are significant management problems that would stem from “individual questions of economic loss.” Def. Br. pp. 79-80. Further, Defendants argue that because some class members like Lowe’s, Menards, and Home Depot are large, well-resourced, and could have an economic incentive to pursue their claims individually, class action is not appropriate. Id. at 80. In making this argument, Defendants suggest that class actions are only designed for situations in which the potential recovery is too slight to support individual suits, but injury is substantial in the aggregate. Id. (citing Murray v. GMAC Mortg. Corp., 434 F.3d 948 (7th Cir. 2006)).

Plaintiffs point out that Defendants’ manageability concern presupposes that common questions do not predominate. In addition, Plaintiffs argue that though there are large entities

who are class members, there are also several small and medium sized plaintiffs who would otherwise lack the resources or incentives to pursue individual actions. Plaintiffs focus on the practical aspect of the class action – there are significant common questions that should be resolved classwide, and if they were not, a multitude of individual claims could be filed, defeating the goal of judicial economy.

The Court agrees that the presence of large retailers as class members does not defeat superiority. Though it is true that Lowe’s may have an incentive to file an individual lawsuit, this does not defeat the purpose of class actions. Indeed, the policy underlying class action is not just merely to allow defendants to be held accountable where they otherwise might not be, but also to allow injured parties to seek redress where they might otherwise not be able to. A hypothetical individual lawsuit brought by Lowe’s against Defendants would not enforce the rights of a contractor who bought drywall from a Defendant.

Further, the Court agrees with Plaintiffs that viewing this case through a practical lens, the goals of judicial economy are best served via the class action vehicle. The Court finds that the DPP class will not pose significant manageability concerns. Class action is the superior method for adjudicating this controversy.

IV. Rule 23(b)(3): Predominance

Having held that the Rule 23(a) requirements are met, that the class is ascertainable, and class action is the superior method for adjudication, the remaining issue is whether common questions predominate. This is the most difficult and complex of the class certification requirements.

Rule 23(b)(3) requires that “questions of law or fact common to class members predominate over any questions affecting only individual class members.” Fed. R. Civ. P.

23(b)(3). The three relevant elements of an antitrust claim that must be capable of common proof for the class to be certified under Rule 23(b)(3) are: (1) violation of antitrust laws, (2) antitrust impact, and (3) measurable damages. In re Hydrogen Peroxide Antitrust Litig., 552 F.3d 305, 311-12 (3d Cir. 2008), as amended (Jan. 16, 2009) (citing 15 U.S.C. § 1).

As this Court held in its summary judgment opinion, Plaintiffs have uncovered sufficient evidence from which a jury could conclude that Defendants agreed to fix prices of paper-backed gypsum wallboard, in violation of the federal antitrust laws. In addition, as discussed in Part II, *supra*, this evidence is likely admissible at trial, and can establish violation on a classwide basis. As a result, the remaining questions relevant to this motion are whether antitrust impact and measurable damages can be proven on a classwide basis.

Antitrust impact refers to injury – that is, each plaintiff must show that it suffered injury as a result of the defendants’ unlawful behavior. Id. (citing Bogosian v. Gulf Oil Corp., 561 F.2d 434, 454 (3d Cir. 1977)). Though plaintiffs need not prove the element of antitrust impact at the class certification stage, they must “demonstrate that the element of antitrust impact is capable of proof at trial through evidence that is common to the class rather than individual to its members.” Id.

Plaintiffs must also demonstrate that common issues predominate as to the element of “measurable damages.” Hydrogen Peroxide, 552 F.3d 305, 311-12 (3d Cir. 2008) (citing Newton v. Merrill Lynch, 259 F.3d 154, 188 (3d Cir. 2001) (“In antitrust . . . actions, proof of injury (whether or not an injury occurred at all) must be distinguished from calculation of damages (which determines the actual value of the injury.”)). Therefore, the Court must consider whether “there is a classwide method for proving damages, and if not, whether

individual damage determinations will overwhelm the common questions on liability and impact.” Kleen Prods. LLC v. Int’l Paper Co., 831 F.3d 919, 929 (7th Cir. 2016).

A. Admissibility of Expert Opinion

To show antitrust impact and measurable damages, Plaintiffs rely primarily on the expert report of Dr. Russell Lamb. In opposition, Defendants submitted the expert opinion of Dr. Jerry Hausman. Both experts filed voluminous economic reports, and were deposed. Defendants moved to preclude the opinion of Plaintiffs’ expert, Dr. Lamb, under Daubert v. Merrell Dow Pharm. Inc., 509 U.S. 579 (1993), but Plaintiffs did not challenge the admissibility of the opinion of Defendants’ expert, Dr. Hausman.

At the request of Defendants, and to more thoroughly assess the parties’ experts’ opinions, the Court held an evidentiary hearing on April 25 and 27, 2017, where each expert’s report served as their direct testimony and then a limited period was allowed for cross-examination, redirect and recross. Following the hearing, there was a final round of briefing by both parties, summarizing and highlighting the key areas of expert testimony. As the Court stated at the conclusion of the evidentiary hearings, the Court believes that both experts were credible. That is, the Court finds that each expert performed the analyses and tests to which they testified, and that they had sincere beliefs about the validity of their own opinions.

District Courts can exercise discretion when applying Daubert to a particular case. That is, the Circuit Court will not disrupt a District Court’s decision to admit or exclude expert evidence unless the decision “rests upon a clearly erroneous finding of fact, an errant conclusion of law or an improper application of law to fact.” In re TMI Litig., 193 F.3d 613, 666 (3d Cir. 1999).

As the Court held in its order dated April 28, 2017, Dr. Lamb's expert opinion fits the facts of the case, is relevant, and is therefore admissible to show classwide injury and measurable damages in support of Plaintiffs' Motion for Class Certification. See ECF 584. The Court reiterates that conclusion here, and notes that it has thoroughly considered Dr. Lamb's opinion in its decision on the DPPs' Class Certification Motion.

B. Overview of Relevant Law: Antitrust Impact

1. Tyson Foods

Tyson Foods, Inc. v. Bouaphakeo, 136 S. Ct. 1036 (2016), is a relevant case on the predominance requirement at the class certification stage. Tyson Foods appears to be the first time the Supreme Court has affirmed a jury verdict in a class action trial. Significantly, the Supreme Court approved of the introduction of expert testimony on the issue of injury, and also the use of aggregate and representative evidence to prove injury and damages on a classwide basis. Because Tyson Foods is so important, a review of the decisions in the trial court, and the holding of the Eighth Circuit will be set forth along with key Supreme Court holdings.

i. Trial Court Proceedings in Northern District of Iowa

The plaintiffs, employees in Tyson's Storm Lake, Iowa pork processing facility, brought claims under the FLSA and under the Iowa Wage Payment Collection Law. Plaintiffs alleged that Tyson's method for compensating its hourly employees systematically underpaid them for time spent donning and doffing their personal protective equipment ("PPE") that was required by Tyson. Tyson paid all employees based on "gang time" which was the amount of time the processing lines were moving, and then supplemented pay by adding a standard "K-code" time to certain employees to compensate for time spent donning and doffing PPE.

Plaintiffs sought FLSA collective action certification for their federal claims, and sought class certification under Rule 23 for their Iowa wage law claims. The case was initially assigned to Judge Mark Bennett, who conditionally certified an FLSA collective action and a Rule 23 class action. Judge Bennett's predominance inquiry did not address the use of representative sampling. See Bouaphakeo v. Tyson Foods, Inc., 564 F. Supp. 2d 870, 909 (N.D. Iowa 2008).

The case was later transferred to Judge John Jarvey, who issued both of the opinions that were appealed from to the Eighth Circuit and later the Supreme Court. The orders appealed from are denials of (1) Tyson's Motion to Decertify the Class (2011 WL 3793962), and (2) Tyson's post-trial motions for Judgment as a Matter of Law and to decertify the class (2012 WL 447119).

a. Order Denying Motion to Decertify

Defendant Tyson moved to decertify the class based on the Supreme Court's decision in Wal-Mart Stores, Inc. v. Dukes, 564 U.S. 338 (2011). In Dukes, the Supreme Court held that a group of Title VII plaintiffs alleging gender discrimination could not proceed as a class, because the question of whether each plaintiff was discriminated against based on gender could not be determined on a classwide basis. That is, the plaintiffs did not allege a policy by Wal-Mart that systematically disfavored women, but rather that several individual decision makers simultaneously disfavored women. Tyson argued that Dukes required decertification because the Supreme Court held that an employer is entitled to individualized determinations of each class member's eligibility for back pay, prohibiting a representative sample of hourly employees.

Judge Jarvey distinguished the case before him from Dukes, and declined to decertify the Rule 23 class. Judge Jarvey noted that the plaintiffs in Tyson Foods challenged a uniformly applied policy, and created one question of law and fact that would be dispositive for the whole class. He did not specifically address the question of representative sampling.

b. Order Denying Defendant's Post-Trial Motions

Following a two-week trial, a jury verdict, and a damages award for plaintiffs, Tyson moved for judgment as a matter of law and to decertify the class, or in the alternative, for a new trial on damages. Tyson argued that “the evidence at trial was not sufficient to support liability because plaintiffs failed to show that each individual employee had not already been fully compensated for any overtime hours they worked.” At trial, plaintiffs had presented the following types of evidence:

- Expert testimony from an expert who conducted a time study at Tyson's facility and determined how much time plaintiffs spend donning and doffing PPE.
- Expert testimony from a damages expert who used the time calculated by the other expert to determine the amount of money owed to each plaintiff.
- Testimony from employees regarding the general practices of employees regarding the donning and doffing of PPE.
- Evidence regarding defendant's practice of paying based on “gang time” and adding “K-Code” time.

The District Court held that the evidence presented by plaintiffs was sufficient to support the Jury's verdict and their damages calculations.

ii. *Appeal to the Eighth Circuit* (765 F.3d 791)

Tyson appealed from both of the above-described orders. Tysons arguments were: (1) that the factual differences between plaintiffs necessitated separate trials, (2) there were some class members who suffered no damage, and (3) plaintiffs “improperly relied on a formula to prove liability,” citing the Supreme Court's admonition against “trial by formula” in Dukes.

In a split panel decision, the Eighth Circuit affirmed, holding that the factual differences between plaintiffs (differences in required PPE, individual routines of employees, and variation in duties) did not require decertification of the class. They concluded that while individual plaintiffs may have varied, their claims were not dominated by individual issues. The Eighth Circuit also did not find fatal the fact that there might have been some class members who were not entitled to FLSA damages.

The Eighth Circuit emphasized that using statistics or samples in litigation is not necessarily trial by formula. The court noted that the plaintiffs did not just prove liability for a sample set of class members, but instead proved liability for the class as a whole, and used actual employee records to determine damages. Further, the court approved of the plaintiffs' use of average donning, doffing, and walking time, holding that while some inference was required, plaintiffs applied this representative evidence to each class member individually.

iii. *Appeal to the Supreme Court* (136 S. Ct. 1036 (2016))

The Supreme Court affirmed the Eighth Circuit's decision. This affirmation is an important precedent. As noted above, the district court had allowed the *Tyson* case to proceed as both a collective action under the FLSA and also a class action under Rule 23, and had noted satisfaction with the plaintiffs' expert presentation. As stated by the Supreme Court, once an expert qualifies under *Daubert*, the issue on a class action motion, and specifically on the question of classwide impact, is not whether the testimony is admissible, but whether it is persuasive:

“In a case where representative evidence is relevant in proving a plaintiff's individual claim, that evidence cannot be deemed improper merely because the claim is brought on behalf of a class. To do so would ignore the Rules Enabling Act's pellucid instruction that use of the class device cannot “abridge . . . any substantive right.”

Tyson Foods, Inc., 136 S. Ct. at 1046 .

Accordingly, the Supreme Court instructed:

Once a district court finds evidence to be admissible , its persuasiveness is, in general, a matter for the jury. Reasonable minds may differ as to . . . [the correctness of the expert’s opinion]. Resolving that question, however, is the near exclusive province of the jury. *The District court could have denied class certification on this ground only if concluded that **no reasonable juror** could have believed [the expert’s opinion].*

Id. at 1049.

2. Antitrust Impact and Hydrogen Peroxide

In 2008, prior to Tyson Foods, the Third Circuit clarified the level of inquiry required of district courts at the class certification stage. Hydrogen Peroxide, 552 F.3d 305. In particular, Hydrogen Peroxide provides a guide to district courts deciding whether to grant class certification under Rule 23(b)(3).

In Hydrogen Peroxide, the Third Circuit reversed the certification of a class of purchasers of hydrogen peroxide and related chemical products pursuing antitrust claims against chemical manufacturers for alleged horizontal price-fixing. In doing so, the Third Circuit held that a district court must engage in a “rigorous analysis” to determine if plaintiffs have established that common questions predominate. Id. at 309. In conducting this rigorous analysis, the district court should consider all relevant evidence and arguments presented by the parties – including weighing and resolving conflicting expert testimony. Id. at 323. The Third Circuit admonished that Rule 23(b)(3) is not a pleading standard, and plaintiffs must do more than just present a “threshold showing” that the predominance requirement has been met. Id. at 316 & n.15. Indeed, any factual determinations underlying the decision to certify the class must be established by a preponderance of the evidence. Id. at 319.

Further, in assessing the evidence presented by the parties, and conducting any factual or legal inquiries necessary, the Third Circuit counseled that the district court should not be afraid to engage in an analysis that may overlap with the merits of the case. Id. at 316. That is, just because an inquiry related to predominance also touches on the merits does not mean that the district court should not consider it. Id.

To be clear, predominance is not a merits determination. Id. at 317 n. 17. However, in assessing whether common classwide proof can establish the elements of the plaintiffs' claims, district courts have been instructed to "formulate some prediction as to how specific issues will play out." Id. at 311.

Antitrust impact is "critically important" in the Rule 23(b)(3) predominance analysis, because it is an element of an antitrust claim "that may call for individual, as opposed to common, proof." Id. at 311. In determining whether plaintiffs have met their burden to show that impact can be shown on a classwide basis, the district court must rigorously assess "the available evidence and the method or methods by which plaintiffs propose to use the evidence to prove impact at trial." Id. at 312.

Whether or not antitrust impact can be proven on a classwide basis often hinges on (often conflicting) expert testimony. As a result, many times Daubert motions accompany class certification briefing, in an effort to disqualify the other party's expert. However, under Hydrogen Peroxide, the district court's analysis of expert opinion does not stop with Daubert, because it is not sufficient to decide that the opinions are admissible. Rather, the district court is required to weigh the credibility of the admissible expert opinions and resolve conflicting testimony in order to determine if the preponderance of the evidence standard has been met. Id. at 323.

To illustrate further, before the district court in Hydrogen Peroxide, both parties presented the opinions of expert economists on the issue of common proof of antitrust impact. Plaintiffs' expert opined that (1) the characteristics of the hydrogen peroxide market (commodity / fungible nature of hydrogen peroxide, heavily concentrated production in a small group of manufacturers, high barriers to entry, and overlapping geographic markets) favored a conspiracy that would affect the entire class and (2) there was a "pricing structure" in the industry which meant that prices across producers and grades of hydrogen peroxide moved similarly over time. Id. at 312–13. As a result, the expert opined, any conspiracy would have injured the entire class of plaintiffs. Id.

In response, defendants' expert disputed plaintiffs' expert's characterization of the market. In particular, defendants' expert pointed out that there are several grades of hydrogen peroxide, and the different grades are not substitutes for each other. Therefore, a conspiracy affecting one of the grades would not necessarily affect purchasers of other grades. Further, defendants' expert showed how pricing over time had generally decreased despite stable costs – therefore refuting the contention that there was a prevailing price structure in the industry.

Despite the conflicting testimony, the district court certified the class, holding that the plaintiffs had made a "threshold showing" that they could present common proof of antitrust impact. The Third Circuit reversed, holding that it was error for the district court to fail to resolve the conflicts between the two experts' testimony. The district court was not permitted to accept the plaintiffs' expert's opinion as sufficient evidence without engaging with the criticisms brought by defendants' expert.

3. Third Circuit class certification cases post-*Hydrogen Peroxide*

Below are synopses of two relevant decisions by the Third Circuit post-Hydrogen Peroxide: (1) In re Class 8 Transmission Indirect Purchaser Antitrust Litig., 689 F. App'x. 135 (3d Cir. 2017), and (2) In re K-Dur Antitrust Litig., 686 F.3d 197 (3d Cir. 2012).

i. In re Class 8 Transmission Indirect Purchaser Antitrust Litig., 689 F. App'x. 135 (3d Cir. 2017)

In Class 8, plaintiffs alleged that Class 8 heavy duty truck manufacturers had conspired with a supplier of Class 8 transmissions to maintain the supplier's monopoly in the truck transmissions market that resulted in supracompetitive prices in the market for Class 8 trucks. Judge Robinson of the District of Delaware denied the indirect purchaser plaintiffs' motion for class certification, and the IPPs appealed. In a non-precedential decision, the Third Circuit affirmed Judge Robinson's decision.

Before the District Court, the IPPs had relied on the expert testimony of Dr. Russell Lamb (DPPs' expert here) in support of their motion for class certification. Dr. Lamb presented three regression models: (1) an "overcharge" regression to show that the truck manufacturers paid the monopolizing transmission supplier supra-competitive prices for truck transmissions, (2) a "direct pass-through" regression to show that the direct purchasers had paid supra-competitive prices for trucks as a result of the conspiracy, and (3) an "indirect pass-through" regression to show that the direct purchaser had passed at least part of that overcharge to the indirect purchasers.

Judge Robinson based her decision not to certify the class on (1) features of the Class 8 truck market, and (2) flaws in Dr. Lamb's regression models. Regarding the features of the Class 8 truck market, Judge Robinson held that there were aspects of that market that would make it difficult to prove antitrust impact on a classwide basis. For example, Class 8 trucks are "unique

and highly customized for use in different applications,” the distribution chain of the trucks is complex and frustrates the process of determining the amount of pass-through on a transmission based on the price of a truck, and the existence of different sales incentives complicated the issue because they may not have been reflected on an invoice, and could potentially exceed the alleged overcharge. The Third Circuit agreed, and held that “the District Court properly exercised its discretion in undertaking a qualitative assessment of the characteristics shared by all indirect purchase transactions of Class 8 trucks against the many individual factors in the real-world market.”

Regarding the flaws in Dr. Lamb’s regressions, Judge Robinson found it fatal that he excluded a significant amount of data. Dr. Lamb had excluded an entire category of transmissions, and also within the category he did analyze, he excluded two manufacturers that comprised 40% of the sales of that type of transmission. The Third Circuit approved of the District Court’s analysis, and held that its decision not to certify the class was a result of a “rigorous analysis” of the expert testimony as required by Hydrogen Peroxide.

ii. *In re K-Dur Antitrust Litig.*, 686 F.3d 197 (3d Cir. 2012)⁷

In K-Dur, the plaintiffs alleged conspiracy to keep generic drugs out of the market, resulting in damage to the purchasers of the drug who would have bought generic drugs earlier but were forced to pay the higher price for brand name drugs. The District Court, adopting an R&R of a special master, certified a class of purchasers of K-Dur, the drug at issue. On appeal,

⁷ It should be noted that this decision was vacated by the Supreme Court via a GVR order. However the case that formed the basis of the GVR order does not relate to the predominance requirement of Rule 23, but rather substantive law regarding Hatch-Waxman antitrust litigation.

defendants argued that the district court had erred in certifying the class. The Third Circuit disagreed, and affirmed the District Court's class certification decision.

Defendants argued that because of the discrepancies in the pricing of the drug at issue and due to the variations in purchaser behavior, there was no way to prove injury to all class members via common evidence. The Third Circuit disagreed, noting that Hydrogen Peroxide does not require that there be no variation among class member. The Third Circuit approved of the Special Master's treatment of these objections, as he conducted an "exceedingly thorough review of plaintiffs' proposal for demonstrating antitrust impact through common evidence and determined that defendants' objections were without support." By going through each expert's opinions, identifying conflicts, and ultimately crediting the plaintiffs' expert over the defendants', the Third Circuit held that the District Court had satisfied the standard required by Hydrogen Peroxide.

4. Survey of E.D. Pa. Antitrust Impact Analyses after *Hydrogen Peroxide*

A number of courts in this District have faced class certification motions in antitrust cases after the Third Circuit's decision in Hydrogen Peroxide. This Court has considered these opinions, and finds it useful to summarize several here.

i. *In re Processed Egg Products Antitrust Litig.*, 312 F.R.D. 171 (E.D. Pa. 2015)

In Processed Egg, the direct purchasers of shell eggs alleged that defendants conspired to reduce the supply of eggs which had the effect of raising the price of eggs above competitive levels. Judge Pratter certified a class of direct purchasers of shell eggs.

The proposed class members cited the following types of expert evidence as proof of common impact of defendants' alleged agreement to reduce the supply of eggs: (1) egg industry characteristics that would make it difficult or impossible for shell egg purchasers to avoid the

impact of the conspiracy, (2) statistical analysis showing co-movement of prices and a price structure throughout the egg industry, and (3) a regression model showing that the alleged conspiracy was effective in raising the price of shell eggs. See Processed Egg, 312 F.R.D. at 184–200.

Judge Pratter agreed with plaintiffs, and held that the first and second types of evidence could show that an effective conspiracy would have affected all class members, and that the third type of evidence could show that the conspiracy was effective in raising prices.

a. Industry Characteristics

With respect to industry characteristics, plaintiffs’ expert (Dr. Rausser) opined that there were five factors that indicated that a conspiracy would have affected prices throughout the entire shell egg industry: (i) lack of close substitutes, (ii) defendants’ domination of the market, (iii) high barriers to entry, (iv) inelastic demand, and (v) ease of coordination between defendants. Defendants did not disagree with any of plaintiffs’ characterizations of the shell egg industry. Judge Pratter found these characteristics to be “highly probative of the extent to which the alleged conspiracy, if shown to be successful, would have affected virtually every member of the proposed shell eggs subclass.” Id.

b. Statistical Analysis of Prices

Next, Dr. Rausser offered statistical evidence to show: (i) prices of eggs move commonly across regions, types, and other characteristics, and (ii) egg pricing is predominantly explained by a common set of factors.

1) Co-movement of prices

Defendants took issue with Dr. Rausser’s use of average prices in his analysis because “averages by their very nature mask individual differences between purchasers.” Id. at 186. To

illustrate this point, defendants' expert (Dr. Myliniski) demonstrated how some sets of individual prices did not exhibit the same co-movement that Dr. Rausser found.

Judge Pratter credited Dr. Rausser's co-movement analysis as probative to some degree, but also of limited value. She pointed out that though averages could mask differences between class members, the analysis was useful to show that different subsets of the shell egg market were related. Her takeaway was that "events that [a]ffect one set of eggs, will, typically, affect to some degree all other sets of eggs." Id. at 187.

2) Pricing explained by common set of factors

Dr. Rausser next presented a "common factors" regression, in which he analyzed how certain factors affect the price of eggs. Id. at 188. To do this analysis, Dr. Rausser used data from 32.7 million shell egg transactions and 1 million egg products transactions that took place in a 16 year period. Dr. Rausser's regressions measured the effect of common factors (such as product characteristics, product packaging, supply costs, customer size, customer type, and seasonality) on the price of eggs. Ultimately, Dr. Rausser found that "common exogenous factors explained over 60% of the pricing of eggs." Id. Such a model would not have been possible if the egg market were not highly standardized – that is, if individual purchasers bought at prices set by individual factors – because "individualized pricing factors would overwhelm the explanatory value of any common pricing factors." Id.

Defendants argued that Dr. Rausser's model was flawed by showing that Dr. Mylinski ran Dr. Rausser's regression on various subsets of the data and found inconsistent and curious results. For example, Dr. Mylinski found that even though Dr. Rausser's regression implies that an increase in gasoline prices would increase the price of eggs, when he ran the regression using just one defendant's transactions, the model suggested that increase in gasoline prices would

actually decrease the price of eggs – which is a nonsensical result. Further, defendants argued that when running the regression using individual defendants’ data, the “overcharge estimate” for one of the defendants was negative, implying a lack of antitrust impact.

Plaintiffs responded that the inconsistencies found by Dr. Mylinski were the result of “data mining,” and had nothing to do with the strength or accuracy of Dr. Rausser’s model. Plaintiffs argued that applying a model to arbitrary subsets of the data has no support in economic theory, and has no bearing on whether Dr. Rausser’s model is reliable. Judge Pratter agreed, and noted that the “sensitivity analysis” performed by Dr. Mylinski was not the type supported by economic theory, and that Dr. Mylinski could not provide any economic support for his methodology. Judge Pratter cited economic literature which warned that isolating subsets of data and running sub-regressions could lead to false negatives. Moreover, defendants admitted that the sub-regressions could not accurately estimate which class members were and were not impacted. Therefore, Judge Pratter held that Dr. Mylinski’s analysis was not instructive as to any flaws or biases in Dr. Rausser’s model.

c. Regression to show effectiveness of conspiracy

Dr. Rausser then employed his “common factors” regression model (discussed above) to show that the conspiracy was successful in raising the price of eggs. To do so, Dr. Rausser divided his data into a benchmark period and a conspiracy period, and created a categorical variable to indicate whether a transaction occurred in the benchmark period (valued at “zero”) or the conspiracy period (valued at “one”). This categorical variable allowed Dr. Rausser to measure the effect of the conspiracy by showing whether (all else being equal) prices were higher during the conspiracy period than during the benchmark period. Dr. Rausser found that, on average, conspiracy period prices of shell eggs were 19.3% higher than benchmark period

prices of shell eggs. This implied that something outside the measured supply and demand factors caused the prices of eggs to be higher during the conspiracy period than they were during the benchmark period.

Defendants did not disagree with this basic theory, but argued that under the Supreme Court's decision in Comcast, plaintiffs were required to first measure to what extent the defendants' actions actually reduced the supply of eggs, and then measure the effect of that supply reduction on price. Judge Pratter disagreed with this reading of Comcast. She rejected "the broad notion that the failure to measure the supply effects of the conspiracy – separate and apart from the price effects of the conspiracy – alone defeats the reliability of the model." Rather, the documentary evidence that the defendants engaged in the alleged conspiracy was sufficient common proof with respect to whether the conspiracy occurred; the question the model attempted to address was whether that conspiracy affected prices.

Defendants also critiqued the reliability of Dr. Rausser's model, arguing (1) that the benchmark period data was sparse and unrepresentative, (2) that Dr. Rausser failed to consider alternative reasons for a reduction in supply, and (3) that Dr. Rausser did not control for certain important determinants of egg prices such as consumer income, dietary demand trends, and avian disease. Judge Pratter rejected each of these criticisms. First, with respect to the representativeness of data, Judge Pratter was convinced that the model and data used were sufficiently robust to provide a meaningful comparison between time periods. Second, with respect to other, non-conspiratorial, reasons for the reduction in supply, Judge Pratter noted that the existence of those alternative reasons would be common to the class, and would not defeat class certification. Third, regarding the supposed omission of material variables, Judge Pratter

held that the defendants had not shown any of the proposed additional variables to be so significant as to fundamentally bias Dr. Rausser's model.

ii. In re Mushroom Direct Purchaser Antitrust Litig., No. 06-0620 (E.D. Pa. Nov. 22, 2016)

In Mushroom, Judge O'Neill certified a class of direct purchasers of fresh agaricus mushrooms. The direct purchasers alleged that the defendants conspired to set artificially inflated prices for fresh agaricus mushrooms, and implemented a supply-control scheme. In support of their motion for class certification, the proposed class members submitted five types of common proof of antitrust impact: (1) the Bogosian Shortcut, (2) the nature of defendants' conspiracy, (3) the structure of the market, (4) defendants own contemporary observations about the effects of their agreement, and (5) the empirical analyses of their expert, Professor Elhauge, regarding prices during the class period.

a. Bogosian Shortcut

The plaintiffs in Mushroom attempted to invoke the Bogosian shortcut – a presumption articulated by the Third Circuit in Bogosian v. Gulf Oil Corp., 561 F.2d 434 (3d Cir. 1977). In that case, the Third Circuit explained that antitrust impact can be presumed under certain circumstances – that is, “if a nationwide conspiracy is proven, an individual plaintiff could prove the fact of damages simply by proving that the free market prices would be lower than the prices paid and that he made some purchases at the higher price.” Id. at 454.

Judge O'Neill declined to apply the Bogosian shortcut in Mushroom for two reasons. First, he held that plaintiffs' claims did not present a clear case of per se liability, and the Bogosian shortcut had only ever been applied in per se cases. Second, he held that after Hydrogen Peroxide, the viability of the shortcut was unclear. That is, any type of “presumption”

seems to run contrary to the Third Circuit’s admonition that district courts must rigorously analyze the evidence.

b. Nature of the Defendants’ Conspiracy

The Mushroom DPPs then argued that the alleged conspiracy was an “express conspiracy” that was “intended to impact all class members” and as a result, antitrust impact could be proven with classwide evidence. In support, plaintiffs pointed to the “comprehensive price lists” that were distributed by the Eastern Mushroom Marketing Cooperative (“EMMC”), which identified “particular circumstances” in which members were allowed to depart from published prices, and detailed an “elaborate system” to enforce the prices and policies.

Defendants argued that this at best established background evidence, but did not constitute proof of antitrust impact among class members because it could not establish that any individual plaintiff was in fact injured. Further, defendants pointed to the analysis of their expert, Dr. Johnson, which showed that the actual prices charged by defendants had no relationship to the EMMC price lists. Plaintiffs’ expert responded with an analysis that found a significant increase in price when the price lists began to be issued.

Judge O’Neill determined that the plaintiffs had the better of the argument on this point. He stated that the defendants’ position boiled down to the argument that the nature of the conspiracy could not be evidence of common impact because the plaintiffs had no evidence that the conspiracy succeeded. Judge O’Neill held defendants’ argument to be unpersuasive at the class certification stage – whether or not the conspiracy was effective is a question for the merits of the case.

c. Structure of the Market

The plaintiffs in Mushroom also pointed to the structure of the agaricus mushroom market as evidence that the “conspiracy would impact all or almost all of the putative class members.” Specifically, the plaintiffs described the agaricus mushroom market as one with a commodity product in a concentrated geographic market with high barriers to entry that is dominated by the defendants in the case. The defendants disputed the plaintiffs’ characterization of the market. In particular, with respect to the commodity nature of the product, defendants argued that fresh agaricus mushrooms could “actually vary widely in terms of quality, size, packaging, specifications and value-added services such as slicing and washing.” Judge O’Neill was not persuaded, and held that given the standardization and fungibility within each size and type of agaricus mushroom, the product was a commodity within each specification. Judge O’Neill largely accepted plaintiffs’ characterization of the market, and credited it as common evidence that could show antitrust impact.

d. Defendants’ observations about the effects of their agreement

The plaintiffs also pointed to documentary evidence showing defendants’ reactions to the effects of their agreements to fix prices as common proof of antitrust impact. For example, one document reporting “EMMC Accomplishments” reported that “cooperative pricing” had raised average industry per pound prices. Defendants argued that such evidence could not show which, if any, class members were injured. Judge O’Neill disagreed, holding that the documentary evidence was probative of whether the conspiracy occurred and whether it was anticompetitive.

e. Empirical analyses of Plaintiffs’ expert, Professor Elhauge

Professor Elhauge submitted several models to show that classwide impact that occurred as a result of Defendants’ price fixing and supply control efforts. One such model was his

“average effects” regression, which isolated the effect of the alleged EMMC price-fixing conspiracy on price. Professor Elhauge concluded that during the period the price fixing was in place, EMMC was successful in raising prices above competitive levels. Defendants argued that the average effects regression was legally insufficient because the resulting “average overcharge” was insufficient to show that every class member was injured. Citing the Supreme Court’s decision in Tyson Foods, Inc., 136 S. Ct. 1036, Judge O’Neill noted that representative evidence can be a means to establish liability. Though Judge O’Neill agreed that the average effect regression by itself was not sufficient to show classwide impact, he held that when considered in conjunction with other evidence, the model was probative. Judge O’Neill found persuasive that Professor Elhauge also ran individual regressions for each class member where enough data was available. Though defendants pointed out that the individual regressions did not show a statistically significant increase in price for all class members, Judge O’Neill nevertheless found the analysis helpful, and held that “a finding of predominance is not foreclosed by the possibility that there may be uninjured class members.”

Defendants also argued that Professor Elhauge’s model was not good evidence because it only included 11 out of 27 defendants. Plaintiffs argued that Professor Elhauge used all available data, and that they should not be punished for defendants’ failure to produce complete data. Judge O’Neill agreed with plaintiffs and noted that per Tyson Foods, representative data is a “permissible means of filling an evidentiary gap.”

Professor Elhauge also created a “supply control model” which was intended to be a damages model that only related to the supply control conspiracy, disaggregated from the price fixing conspiracy. Defendants criticized the model as being unable to show whether or not any class member actually suffered an overcharge, and as purely theoretical in nature. Plaintiffs

argued that the purpose of the model was not to show whether any class member incurred an overcharge. They pointed out that Professor Elhauge concluded that the supply control conspiracy would have impacted all or nearly all class members because it would have a systemic impact on supply and as a result, price. Judge O'Neill held that it was not necessary for plaintiffs to show impact on a disaggregated basis at this stage for each theory of liability.

iii. *In re Pharmacy Benefit Managers Antitrust Litig.*, 2017 WL 275398 (E.D. Pa. Jan. 18, 2017)

In Pharmacy Benefit Managers, independent pharmacies alleged two separate conspiracies, which they claimed had the effect of lowering the independent pharmacies' reimbursements for pharmaceuticals. First, plaintiffs alleged a conspiracy among pharmacy benefit management plan sponsors, such as employers and insurers, which was facilitated by each PBM acting as an agent and conduit for its clients. Second, plaintiffs alleged a horizontal conspiracy among the PBMs.

Plaintiffs presented the opinions of two economists in support of their motion for class certification. The expert opinions compared the reimbursement rates to chain pharmacies with the reimbursement rates to independent pharmacies. In response, the defendants presented the expert opinion of Dr. Jerry Hausman (Defendants' expert in this case) who opined that plaintiffs' experts' methods were not reliable and they could not show classwide impact or damages.

Judge Jones excluded both of plaintiffs' expert opinions under Daubert, and declined to certify the class. In excluding the expert opinions, Judge Jones noted that plaintiffs' expert reports failed to connect their opinions to antitrust law or the facts of the case, noting that they "fail[ed] to account for legal behavior that could result in different reimbursement rates, such as local market concentration, size efficiencies, and differences in bargaining power" and "offered no antitrust explanation for the average reimbursement differential observed."

Further, Judge Jones noted that the plaintiffs lacked additional evidence beyond the expert reports – even on the basic issue of whether a price-fixing conspiracy existed. In addition, Judge Jones found there to be Comcast issues present, because the plaintiffs failed to connect their theory of damage to any theory of antitrust violation and resulting impact. For all of these reasons, Judge Jones declined to certify the class.

iv. *In re Plastics Additives*, 2010 WL 3431837(E.D. Pa. Aug. 31, 2010)

In Plastics Additives, Judge Davis denied class certification to a group of direct purchasers of chemicals used in the production of plastic. Judge Davis’s decision hinged on his finding that antitrust impact among the proposed class members was not capable of proof on a classwide basis. Plaintiffs had offered the following evidence: (1) Defendants’ pricing behavior, (2) economic characteristics of the market, (3) pricing structure of the market, and (4) regression analysis.

a. Defendants’ Pricing Behavior

Plaintiffs submitted evidence of list prices and price increase announcements as evidence of common impact. Judge Davis held that this evidence was not sufficient because it did not show whether those prices were actually implemented or whether they impacted the prices paid by plaintiffs. Further, defendants had submitted evidence that actual price increases did not follow the announcements, and plaintiffs conceded that defendants were not able to charge all customers the amounts set forth in their price lists.

b. Economic Characteristics of the Market

Plaintiffs alleged that the characteristics of the market at issue made it so the effects of the conspiracy would have been unavoidable. Specifically, the plaintiffs alleged that the products were fungible commodities and that the defendants dominated the markets for the

products. Though Judge Davis agreed that this type of evidence would have been good common evidence of antitrust impact, Judge Davis weighed the expert and deposition evidence before him and held that the market did not actually have the characteristics described by plaintiffs.

c. Pricing Structure

Plaintiffs presented evidence that prices in the plastics additives markets were determined by a common set of factors, so the prices charged by defendants moved similarly. Judge Davis again held that this type of evidence could be useful to show common impact. However, Judge Davis found that the evidence that plaintiffs submitted did not actually show that prices in the market moved commonly across producers and customers. For example, Judge Davis found that the graphs presented by plaintiffs' expert did not even show on a superficial level that prices charged by different defendants moved together over time.

d. Regressions

Plaintiffs submitted regression models created by their economics expert to prove classwide impact. Judge Davis held that this evidence was insufficient, because the regressions only showed "average" impact that could not disaggregate any individual effect to any individual plaintiff. That is, the plaintiffs' expert made no attempt to run individual regressions for individual plaintiffs. Further, the defendants' expert did run individual regressions using the plaintiffs' model, and found that only 56 of the 155 proposed class members showed a statistically significant increase in price. As a result, Judge Davis held that the plaintiffs could not show that all or virtually all plaintiffs were impacted as a result of the alleged conspiracy.

C. Economics and Econometrics

An antitrust case almost always requires some review of economic issues. However, because this is a case involving claims of price fixing in violation of Section 1 of the Sherman

Act, the violation, if proved, would be per se illegal, and thus economic impact need not be shown. However, for a class to be certified under Rule 23(b)(3), appellate courts have been clear that plaintiffs must prove, by a preponderance of the evidence, that antitrust impact on all or virtually all members of the alleged class, and measurable damages, can be shown on a classwide basis. Hydrogen Peroxide, 522 F.3d at 320. This analysis requires economic analysis.

Indeed, as discussed in Part III.A, *supra*, Plaintiffs rely primarily on the expert report of economist Dr. Russell Lamb to show antitrust impact and measurable damages. As described in further detail below, the central piece of analysis underlying Dr. Lamb's opinion is a regression analysis. Though the market conditions of the drywall industry broadly speaking are not disputed, the application of econometrics, and specifically regression analysis, is hotly contested.

To understand these disputes, then, it is first important to discuss as background the purpose of a regression analysis, the basic terminology involved, and the usefulness of regression in court.

1. Background on Regression

A regression analysis is a mathematical device which estimates the relationships between variables. See, e.g., In re Flat Glass Antitrust Litig., 191 F.R.D. 472, 486 (W.D. Pa. 1999). More specifically, a regression analyzes the relationship between a dependent variable (response variable) and one or more independent variables (explanatory variables), and aims to parse out which independent variables have an effect on the value of the dependent variable. See Franklin M. Fisher, Multiple Regression in Legal Proceedings, 80 Colum. L. Rev. 702, 704 (1980). When a regression includes more than one explanatory variable, it is referred to as a multiple regression. Id.

To perform a multiple regression analysis, an economist first considers which major explanatory variables are likely to have an effect on a particular dependent variable of interest. Id. at 705. After collecting a dataset that will allow measurement of those effects, the economist then inputs his or her set of data into a statistical program. The statistical program will then output a “model” which shows the effects of each explanatory variable on the dependent variable, holding the others constant. Id. at 706.

A regression model outputs a coefficient for each independent variable. Daniel L. Rubinfeld, Econometrics in the Courtroom, 85 Colum. L. Rev. 1048, 1065 (1985). The value of each coefficient indicates the magnitude and direction of the effect that each particular independent variable has on the dependent variable, holding the others constant. Id. The inclusion of multiple explanatory variables in a model has the effect of “controlling” for other factors that would affect the dependent variable, and improves the model’s ability to isolate the effect of the key independent variable. Id.

To demonstrate the above principles, if an ice cream store was attempting to estimate the effect that temperature had on ice cream sales, a coefficient of positive .02 would indicate that for each additional degree in temperature, the store’s ice cream sales would be expected to rise 2%. To better isolate the effect of temperature itself, an economist might include control variables like day of the week, time of day, and whether it is rainy or sunny, etc. That way, the temperature coefficient would estimate the effect the temperature has on sales, if all other variables remain constant. In this example, the .02 coefficient would estimate a 2% increase in sales with every additional degree in temperature, for any given day of the week, time of day, and weather situation.

The variables do not have to be continuous numeric variables. A commonly used type of variable is what is known as an “indicator” or “dummy” variable. See Daniel L. Rubinfeld, Reference Guide on Multiple Regression, in Federal Judicial Center, Reference Guide on Scientific Evidence 303, 338 (3d ed. 2011) (hereinafter Reference Guide). Indicator variables take on one of two values: “1” or “0.” The coefficient associated with the indicator then measures the expected effect the change from the “0” category to the “1” category would have on the dependent variable. Id. For example, if an economist was measuring the effect gender has on salary, the economist could create an indicator variable for gender that took on the value “1” for a male employee, and “0” for a female employee. Fisher, 80 Colum. L. Rev at 722. The coefficient of the gender indicator variable would then measure the expected effect being a man has on salary, holding other independent variables constant, or, said differently, the average disparity in pay between men and women. Id.

In addition to measuring the magnitude and direction of the effect a particular variable has on a dependent variable, a model will also indicate the accuracy of that coefficient; that is, how likely the measured effect is due to chance. Id. at 716. If a measured effect is unlikely to be due to chance, then economists refer to the relationship as “statistically significant.” Id. at 717. The model will also estimate how accurate the model is as a whole, also known as the model’s “goodness of fit.” Id. at 716. One method of estimating the “goodness of fit” of a model indicates how much of the variation in the dependent variable is “explained” by the variation in the chosen explanatory variables. Id. at 720. This is measured by a statistic known as R-squared, which is a number between 0 and 1. The closer to 1, the better the model explains the variation in the dependent variable. Id. The effects of unexplained, non-systematic factors are

picked up by what is known as the “error term” or “random disturbance term” in the regression model. See id. at 706, 711.

2. Cases admitting regression analysis as evidence

The use of regression analyses has become increasingly common in litigation. See Reference Guide. Indeed, the Supreme Court has approved the use of regression analysis as a means of proving liability. See Bazemore v. Friday, 478 U.S. 385, 400, (1986). In Bazemore, the Supreme Court considered the use of regression in an employment discrimination case. The plaintiff in Bazemore used regression to demonstrate disparity in pay that resulted from alleged race-based discrimination. That is, the plaintiff presented a regression model to show that, holding constant other relevant factors, black employees were paid less than white employees. See id. at 398. The Fourth Circuit affirmed the district court’s entry of judgment in favor of the employer, holding that because the regression model could not account for all relevant factors that could affect pay, it was not admissible as evidence of discrimination. Id. at 399-400. The Supreme Court reversed, holding that the fact that not all relevant factors are captured in a regression model goes to the probative value of the evidence, not its admissibility. Id. at 400. Further, the Supreme Court noted that when viewed in connection with all of the other evidence in the record, the regression analysis became more compelling as additional evidence of discrimination. Id. at 401.

Regression analysis has become increasingly common in antitrust litigation as well – specifically it has been used to show antitrust impact and as a method of determining damages. See In re Flat Glass Antitrust Litig., 191 F.R.D. 472, 486 (W.D. Pa. 1999) (collecting cases and identifying multiple regression analysis as “one of the mainstream tools in economic study”); see also Resco Prod., Inc. v. Bosai Minerals Grp., No. CIV.A. 06-235, 2015 WL 5521768, at *5

(W.D. Pa. Sept. 18, 2015) (collecting cases). The Third Circuit has specifically endorsed the use of multiple regression analysis in antitrust cases. Petruzzi's IGA Supermarkets, Inc. v. Darling- Delaware Co., 998 F.2d 1224 (3d Cir. 1993). In Petruzzi's, the Third Circuit first engaged in a Daubert analysis, holding that regression was a reliable economic method, and that the testimony relating to the regression model would be helpful to the trier of fact. Id. at 1238. The Third Circuit noted that the only compelling reason to doubt the reliability of the model would be if the data used was incomplete or inaccurate, such that a reasonable economist would not rely on it. Id. After deciding that the evidence was admissible, the Third Circuit held that the economic evidence, when viewed in connection with the remainder of the evidence, was enough to create a factual issue for trial. Id. at 1241.

In Processed Egg, 81 F. Supp. 3d 412 (E.D. Pa. 2015), Judge Pratter admitted expert evidence put forward by a purported class of plaintiffs at the class certification stage of a multidistrict antitrust litigation. The expert opinion at issue in Processed Egg in part utilized multiple regression analysis. To show antitrust impact, the expert (Dr. Rausser) created a “common factors regression” to show that common factors across the industry impacted the price of eggs and egg products, and that the prices of eggs during the conspiracy were higher than the regression suggests they should have been absent the conspiracy. Id. at 425. Defendants argued that this model was not reliable; stating that it failed to consider “many important factors that impact the price of eggs.” Id. at 426. For example, Dr. Rausser only included one demand-side variable, U.S. population. Id. Further, defendants argued that Dr. Rausser’s finding of an average effect of the conspiracy on the price of eggs did not establish impact, because an average could not establish impact for individual plaintiffs. Id. at 434.

Judge Pratter held that the defendants had not identified any variable not included by Dr. Rausser that was so important as to make Dr. Rausser's model inadmissible, and credited the proffered opinion as reliable. Id. at 426. Regarding the average overcharge issue, Judge Pratter held that this did not make Dr. Rausser's opinion inadmissible. Id. at 434. She noted that regression analysis is frequently used in antitrust cases, and as a matter of course, they result in a finding of average overcharge. Id. at 433. She noted further that Dr. Rausser had endeavored to overcome this intrinsic shortcoming in regression models by running regressions for individual class members. Judge Pratter held that this strengthened the fit of the opinion to the case. Id. at 434-35.

D. Expert Evidence

As required under Hydrogen Peroxide, an evaluation of the expert evidence in this case is critical to determining whether DPPs can show antitrust impact and damages on a classwide basis.

1. Procedural Background and Relevant Filings

Initially, expert reports were received during the period of class action briefing. DPP Mot., Exh. 1 ("Lamb Class Report"); Def. Br., Exh. 1 ("Hausman Report"); DPP Reply, Exh. 63 ("Lamb Reply Report"). Because Dr. Lamb had served a comprehensive reply report after some of the class action briefing had been completed, at the request of Defendants, the Court allowed Dr. Hausman an opportunity to restate his positions, post briefs. Accordingly, Defendants filed a supplemental report of Dr. Hausman on April 18, 2017. ECF 577 ("Hausman Suppl. Report").

At the suggestion of Defendants, the Court held evidentiary hearings on April 25 and 27, 2017, for several hours each day. The experts' reports served as their direct testimony. Each expert was cross-examined live, followed by redirect and re-cross. On the final day, both experts

answered a series of questions from the Court. The Court then allowed post-hearing briefs, which were filed on May 25, 2017. See ECF 595, ECF 597.

After this substantial briefing, argument, and testimony, the Court noted that there were significant and technical econometric issues presented by the two experts. To assist in working through these issues, the Court suggested appointing a neutral expert, and asked the parties to comment on this possibility. See ECF 585. After considering the positions of the parties, the Court appointed a Technical Advisor, Professor Jeffrey Church of the University of Calgary. See ECF 601. Professor Church submitted a report which was filed on July 17, 2017. ECF 611 (“Technical Advisor Report” or “TAR”). The parties were afforded an opportunity to respond to the TAR, which they did on July 31, 2017. ECF 613 (“Def. TAR Response”), ECF 616 (“DPP TAR Response”). With their response, Plaintiffs requested the opportunity to submit a supplemental report of Dr. Lamb which the Court allowed. ECF 617. The Court allowed Defendants an opportunity to respond to the Lamb Supplemental Report, and they chose to do so via an additional report of Dr. Hausman. ECF 622.

2. Summary of Expert Opinions

The Court finds it useful to first summarize the opinions of the two experts, and the technical advisor, in a general manner. The specifics of the experts’ opinions, and their particular disagreements, are addressed in more detail in Part IV.E, *infra*.

i. Plaintiffs’ Expert’s Opinion

Dr. Lamb offers the opinion that classwide evidence can show that drywall prices were artificially inflated during the class period, and as a result of the artificial inflation, all or nearly all of the class members were overcharged for drywall. See Lamb Class Report ¶¶ 31-32. Dr. Lamb further concludes that damages are calculable on a classwide basis. Id.

- a. Dr. Lamb opines that classwide evidence can show that drywall prices were artificially inflated

In the first step of his analysis, Dr. Lamb argues that classwide evidence demonstrates that the alleged cartel artificially inflated prices to members of the proposed class generally. The classwide evidence he points to is: (1) the commodity nature of the wallboard product, (2) the existence of excess production capacity and near-historically low demand, and (3) a multiple regression analysis.

1) Commodity Nature of Wallboard

Pointing to Defendants' internal documents and SEC filings, Dr. Lamb states that wallboard is a commodity product. Lamb Class Report ¶¶ 35–36. Further, Dr. Lamb points to analyses of industry analysts and market observers that characterize the drywall market as a commodity market, noting the interchangeability of wallboard across suppliers. *Id.* ¶ 37. Dr. Lamb notes that according to economic theory, in a non-collusive market for a commodity-like product, suppliers will compete with each other primarily based on price, and will attempt to increase their own sales at the expense of their competitors. *Id.* ¶ 39.

2) Excess Production Capacity and Near Historically Low Demand

Dr. Lamb states that classwide evidence, including testimony, documents, and industry data, can demonstrate that the demand for wallboard “remained near historic lows leading up to and during the proposed Class Period.” *Id.* ¶ 40. Further, Dr. Lamb points out that there is similar evidence to show that capacity utilization was also low in the drywall industry. *Id.* ¶¶ 42–43. Dr. Lamb reasons that these market factors would have predicted stable, or even lower, wallboard prices. *Id.* ¶ 46. Instead, the price of drywall went up. *Id.* Dr. Lamb concludes that the “juxtaposition of wallboard prices moving higher in spite of weak demand and low capacity

utilization” is good classwide evidence of artificially high, supracompetitive prices, indicating that the alleged cartel was effective in raising prices. Id. ¶¶ 40, 46.

3) Multiple Regression Analysis

Dr. Lamb engaged in a multiple regression analysis to show that the conspiracy had the effect of increasing prices. To do so, Dr. Lamb defined a “benchmark” period (January 1, 2010–December 31, 2011), a “class” period (January 1, 2012–January 31, 2013), and a “damages” period (January 1, 2012–December 31, 2013), and compared prices in these periods through the use of indicator variables. Id. at Table 7.

The dependent variable in Dr. Lamb’s model is the net price paid by direct purchasers of drywall. Dr. Lamb’s key independent variables in his regression model are a set of three time-based dummy variables, which take on the value of “1” for transactions that took place during a certain period, and “0” for transactions that took place outside of that period. Id. ¶¶ 71–72. Dr. Lamb defined one indicator variable for transactions in 2012, another for transactions in January 2013, and a third for transactions between February 1, 2013 and December 31, 2013. Id. at Table 7. Dr. Lamb included control variables for demand, cost of inputs, and macroeconomic environment to isolate the effects of the conspiracy. Id. ¶¶ 62–69. That is, the dummy variables seek to measure the increase in price in the conspiracy period that is not explained by market forces, i.e., supply and demand.

Dr. Lamb concludes from his model that because the overcharge indicator variables are positive and statistically significant, this shows that prices were artificially inflated by the alleged cartel. Id. ¶ 78. That is, prices were higher than they otherwise would have been absent the cartel. Further, Dr. Lamb points out that his model’s R-squared value is .87, meaning that 87%

of the variation in drywall prices is explained by the variation of the independent variables in the model. Id. ¶ 77.

- b. Dr. Lamb opines that classwide evidence can show that all or nearly all proposed class members were overcharged

Having concluded that classwide evidence is capable of showing that drywall prices were artificially inflated, Dr. Lamb opines that there is common evidence to show that all or nearly all proposed class members were impacted by this artificial inflation. This evidence includes:

- (1) evidence of a pricing structure in the market,
- (2) evidence of the market characteristics in the drywall industry,
- (3) evidence that the manufacturers of drywall strictly enforced their price increase, and
- (4) empirical analysis indicating that almost every buyer paid inflated prices. Id. ¶¶ 82–84.

1) Common evidence of a pricing structure in the drywall market

Dr. Lamb explains a pricing structure as a phenomenon where prices paid by purchasers of interchangeable products from different sellers tend to move together over time in response to common economic forces. Id. ¶ 85. Dr. Lamb analyzes the supply and demand factors that determine the price of wallboard in the industry and concludes that the evidence shows that there is a pricing structure present in the drywall industry. Id. ¶ 86. As a result, Dr. Lamb opines that prices charged by each of the drywall manufacturers would tend to move together. Id. ¶¶ 86–90. Dr. Lamb presents a graph showing the co-movement of prices over time. Id. at 50. He also presents a correlation analysis which shows that the prices charged by the drywall manufacturers are highly correlated with each other. Id. ¶¶ 94–96. Therefore, Dr. Lamb notes that this

evidence of a pricing structure, which is common to the class as a whole, can show that a drywall buyer is unlikely to be able to avoid the effects of a price increase. Id. ¶ 96.

2) Structural characteristics of drywall industry indicate that buyers could not avoid price increase

Dr. Lamb points to three types of evidence to show that a purchaser of drywall would be unable to avoid the effects of the conspiracy. Id. ¶ 97. First, Dr. Lamb notes that there is evidence that the manufacturer co-conspirators dominated the drywall market, and as a result of the market dominance, it would be difficult for a buyer to avoid the effects of the conspiracy. Id. ¶ 98 & Table 10. Second, Dr. Lamb points out that there are no available economic substitutes for drywall, so purchasers had no alternative but to buy drywall at the inflated price. Id. ¶¶ 101–103. Third, Dr. Lamb states that the drywall industry has high barriers to entry, including access to gypsum rock, access to paper-backing, high costs of building a wallboard factory, and customer acceptance. Id. ¶¶ 104–107. As a result, would-be competitors do not find it attractive to enter the market and drive the price down to competitive levels, making it easier for those already in the market to maintain a price increase above equilibrium. Id. ¶ 108.

3) Evidence of strict enforcement of the price increase among manufacturers

Dr. Lamb points to documentary evidence that the co-conspirator manufacturers strictly enforced the agreed-upon increases. Id. ¶ 109. Generally, the evidence includes statements by co-conspirators noting that the uniformity in position is critical, and that they were willing to sacrifice sales volume in order to maintain the increases. See id. ¶¶ 110–113. Dr. Lamb opines that this evidence indicates that every direct purchaser was likely affected by the price increase. Id.

4) *Empirical analysis indicates everyone paid inflated prices*

Dr. Lamb then conducts two additional empirical analyses to show that all or virtually all drywall purchasers were affected by the conspiratorial price increase: (1) a before-after test, and (2) a purchaser impact model.

In the before-after test, Dr. Lamb isolated the members of the proposed class that purchased a given product in the last six months of the benchmark period, and purchased the same product during the damages period. Id. ¶¶ 115–16. Then, he compared the minimum price paid by a proposed class member in the last six months of the benchmark period and the minimum price they paid during the damages period. Id. This resulted in a finding that 98 percent of the proposed class members paid a higher price during the damages period for at least one product. Id.

In his purchaser impact model, Dr. Lamb ran a regression that includes a variable to show overcharge for each individual proposed class member. This model resulted in a positive overcharge measurement for 98% of the purchasers.

c. Damages are calculable on a classwide basis

Dr. Lamb opines that damages are calculable on a classwide basis, and points to his multiple regression analysis, discussed *supra*, as a method for calculating the damages. Id. ¶¶ 138–140.

ii. *Summary of Defendants' Expert's Opinion and Plaintiffs' Expert's Reply*

In mounting their critiques of Dr. Lamb's analysis, Defendants rely on the opinion of their retained expert, Dr. Jerry Hausman. Dr. Hausman has a distinguished background in economics and is the publisher of many books and articles. Dr. Hausman did not prepare his own independent regression analysis; his expert report is primarily directed towards criticism of

Dr. Lamb's assumptions and regression studies on a number of different points which are reviewed below.

a. Pricing Structure

Dr. Hausman criticizes Dr. Lamb's "pricing structure" analysis, calling it "junk science." By Dr. Lamb's logic, Dr. Hausman argues, a pricing structure would exist whenever pricing is not random, which would apply to virtually every industry. He asserts that pricing structure is not an accepted concept in economics academia, and that it cannot show that every member of the proposed class would have been affected by the alleged conspiratorial price increase.

Dr. Lamb disagrees, noting that his model's R-squared value indicates that a pricing structure exists, because prices are well-explained by systematic forces. He does not agree that it would apply to all industries.

b. National Market

Dr. Hausman argues that the market for Drywall is local, and not national. That is, Dr. Hausman disputes the idea that there can be a nationwide model, using a nationwide demand index that will accurately predict competitive drywall prices.

c. Critiques of Dr. Lamb's Regression Models

1) Measurement Error

Dr. Hausman argues that Dr. Lamb's model suffers from measurement error, because it does not accurately measure supply and demand. Dr. Hausman disputes using a national market and using national supply and demand variables. Dr. Hausman argues that Dr. Lamb should have used regional variables, because it more accurately captures the relevant local supply and demand conditions. Dr. Hausman argues that Dr. Lamb's model attributes too much of the price increase to cartel effect rather than increase in demand in certain regions. To support the idea

that the market is regional, Dr. Hausman states that three quarters of all drywall sales were made within 300 miles of the manufacturing plant. He says that this happens because of the high cost of shipping drywall, which also prevents arbitrage between regions.

Dr. Lamb disagrees, noting that the price increases made were made nationwide, and did not vary by region. Further, Dr. Lamb argues that the 300 mile shipping radius statistic does not really mean that the markets were local, because 40% of drywall shipped was shipped more than 200 miles. In addition, Dr. Lamb tracked prices for Home Depot and Lowe's on a state level, and they moved together throughout the class and damages period.

2) Control Factors

Dr. Hausman further critiques Dr. Lamb's model because he fails to control for idiosyncratic factors like the difference in size or bargaining power of the class members. He notes that many buyers negotiated long term contracts, and manufacturers would use different price incentives for different customers. In support of these critiques, Dr. Hausman performed a subgroup regression and found that estimated effects on prices for individual customers varied widely. Dr. Lamb disagrees, arguing that he accurately controlled for relevant factors, as is evidenced by the R-squared value of his model (.87).

3) Benchmark Period

Dr. Hausman opines that Dr. Lamb's selection of Benchmark Period does not allow for an accurate model. That is, Dr. Hausman contends that Dr. Lamb's benchmark period is characterized by historically low demand, with little variation in demand throughout the period. As a result, Dr. Hausman argues that Dr. Lamb's benchmark period does not adequately allow for an accurate estimation of the effect that demand has on price – that is, it overestimates the effect of the alleged conspiracy.

In his reply, Dr. Lamb argues that Dr. Hausman's benchmark period is less accurate than his, because it includes data from the housing bubble and great recession.

4) Structural Break

Dr. Hausman employs econometric tests called the Chow test and the F-test to conclude that there is a structural break in Dr. Lamb's model. That is, Dr. Lamb's model does not account for a change in the relationship between demand and price between his benchmark period and the conspiracy period. As a result, Dr. Hausman argues that imposing a constant relationship between those two variables in the model biases the results and overestimates the effect of demand on price. Dr. Lamb argues that the Chow test and F-test detect structural breaks where there are none, and disagrees that there is a change in relationship between demand and price between his benchmark period and the conspiracy period.

5) Indicator Variable

Dr. Hausman argues that the indicator variable for the conspiracy period should start on the first day of the alleged conspiracy (October 2011), instead of the first date of the price increase (January 1, 2012). He argues that when this date is used, the measured overcharge disappears. Dr. Lamb disagrees, because the date of the variable aligns with Plaintiffs' allegation that the price increases took effect January 1, 2012.

d. Use of Average Overcharge to Establish Impact

Dr. Hausman argues that Dr. Lamb's model calculates the market-wide effect of the cartel, and does not show individualized impact to proposed class members. Further, Dr. Hausman argues that the use of averages masks extensive variation in actual data, and cannot establish that every class member suffered injury. Dr. Lamb disagrees, noting that the mathematical operation of regression necessarily entails some degree of averaging. He argues

that this does not discount its value, and points out that it is a widely used economic method in antitrust cases to establish impact and to calculate damages.

iii. Summary of Technical Advisor Report

Because Dr. Hausman used a great deal of technical econometric language in his reports, and in his testimony at both his deposition and in Court, the Court, for reasons previously stated, appointed a technical advisor, Dr. Church, and posed the following questions for him to address in his report:

1. Dr. Hausman testified that in his opinion, the regression analysis prepared by Dr. Lamb “failed” three econometric tests, the Chow test, the Hausman test, and the F-test. Is the basis of Dr. Hausman’s opinions about the failure of Dr. Lamb’s regression analysis with respect to any or all these three tests ascertainable from the summary judgment decision and/or from the reports and/or testimony of the experts?
2. Please explain, in as plain English as possible, the details for the analysis.
3. If the consultant’s opinion is that one or more of these tests show any defects in Dr. Lamb’s regression analysis, what significance, from an econometric point of view, does it have, if any, in connection with the issue of whether class representatives can prove antitrust injury and/or damages on a classwide basis?
4. How do you interpret Dr. Hausman’s opinion that the Lamb regression analysis suffers from “measurement error?” What significance, if any, does this opinion have on the “antitrust injury” or “damages” issue from an econometric point of view?
5. The Plaintiffs allege, in their post-hearing brief, that Dr. Hausman’s testimony on April 25, 2017 revealed a number of inconsistencies or concessions:
 - a. Contradictions with Dr. Hausman’s earlier opinions and/or
 - b. Agreement with Dr. Lamb’s opinions

What is the consultant's view of these arguments concerning econometric analysis and terminology?

As is apparent from the above questions, the primary purpose for appointing Professor Church was to assist the Court in understanding the practical import of the econometric criticisms of Dr. Lamb's model advanced by Dr. Hausman. Dr. Church issued his report to the Court on July 17, 2017, and it was filed on that day. ECF 611. The Court invited the Parties to comment on Dr. Church's report in simultaneous briefs limited to 15 pages, which were filed on July 31, 2017.

In essence, Dr. Church evaluated the strength and practical import of Dr. Hausman's criticisms of Dr. Lamb's econometric models. In particular, Dr. Church considered Dr. Hausman's opinions that (1) Dr. Lamb's model suffers from measurement error, and (2) that Dr. Lamb's model does not account for the structural break that occurred between the benchmark period and the conspiracy period.

a. Hausman Test: Measurement Error

As explained by Dr. Church, measurement error refers to the way independent variables are measured. TAR ¶ 76. If an independent variable is measured with error, then the error term in the regression (which refers to the variation unexplained by the model) will be correlated with the independent variable as measured. Id. This results in a bias in the estimated coefficient which measures the effect of the independent variable on the dependent variable. Id. This bias makes the coefficient, which is the critical part of the regression, unreliable. Id.

Dr. Hausman argues that Dr. Lamb's national cost and demand variables are measured with error, making his regression unable to measure classwide impact. Dr. Hausman's opinion that Dr. Lamb's model suffers from measurement error is based on both non-econometric evidence and his application of the Hausman test. Id. ¶¶ 113–14. The Hausman test compares a

regression using independent variables measured with error to a regression using “instrumental variables” that theoretically do not suffer from measurement error. Id. ¶ 87. Ultimately, Dr. Church concluded that the application of the Hausman test in this case is inconclusive with regard to measurement error. Id. ¶ 123. This is because Dr. Hausman admits that the instrumental variables in his comparison regression may also suffer from the same measurement error as Dr. Lamb’s original variables. Id. ¶ 119. As a result, Dr. Hasuman did not perform the Hausman test as devised in the literature, and therefore, his application of the test here cannot establish that Dr. Lamb’s model is unreliable. Id. ¶¶ 123–24; 130. However, Dr. Church notes that there is non-econometric evidence that could indicate that measurement error is a problem in Dr. Lamb’s model. Id. ¶ 126.

b. Application of Chow Test and F-Test

Dr. Church explains that the regression performed by Dr. Lamb assumes that the relationship between the independent variables and the dependent variable does not change over time. Id. ¶ 131. That is, Dr. Lamb’s models impose a constant, linear relationship between independent variables such as costs and demand on the dependent variable, price. Id. Here, Dr. Church explains that there is reason to test whether the relationship between these variables is actually constant, because of the change in demand that occurred between Dr. Lamb’s benchmark period (flat demand) and the conspiracy period (increasing demand). Id. ¶ 135. Dr. Church points out that Dr. Lamb did not test for non-linearity, and testified that he did not do so because he did not think that it was necessary or appropriate. Id. ¶ 154.

Dr. Hausman, on the other hand, did test for non-linearity. Said differently, Dr. Hausman tested Dr. Lamb’s model to see whether there was a “structural break” which would change the relationships of the variables in the model. To do so, Dr. Hausman performed what is referred to

as a Chow Test, which tests whether, if not constrained to be the same, the coefficients on the independent variables for each time period are statistically significantly different from each other. Id. ¶¶ 137-138. Dr. Hausman concluded that they are.

Dr. Church concludes that this critique by Dr. Hausman is legitimate, and has practical implications for the usefulness of Dr. Lamb's model. Id. ¶ 134. Dr. Church explains that the results of the Chow test indicate that Dr. Lamb underestimates the true effect that demand has on prices in the conspiracy period. Id. ¶ 142. This is important and problematic, according to Dr. Church, because it means that Dr. Lamb's model over-attributes the increase in price that occurred during the conspiracy period to the presence of the conspiracy itself. Id. Because the very thing that Dr. Lamb's model attempts to do is to parse out how much of the price increase is due to the conspiracy (and not market forces like demand), by underestimating demand's effect on price, Dr. Lamb's conclusions are undermined. Id.

Dr. Church indicates that Dr. Lamb's underestimation of demand is likely due to the lack of variation in demand during Dr. Lamb's benchmark period. This is shown by the fact that the estimated impact of demand on price increases when the benchmark period was extended to include a time period of greater variability that more closely resembled the demand trajectory during the conspiracy period. Id. ¶¶ 146-49. Dr. Church also points to other pieces of evidence in the record which indicate that Dr. Lamb underestimates the effect demand has on prices, including the fact that Dr. Lamb's model would estimate an even larger overcharge amount in the periods following the conspiracy period, even though the conspiracy was allegedly over. Id. ¶ 143. Dr. Church explains that Dr. Lamb's underestimation of the effect demand has on prices means that his model is not reliable in parsing out how much of the price increase was due to the alleged conspiracy – which is what is required to show antitrust impact.

iv. Parties' Responses to Technical Advisor Report

After Dr. Church's report was filed, the Court allowed the Parties to briefly respond to Dr. Church's opinions and conclusions. Plaintiffs attached to their response a supplemental report of Dr. Lamb. The Court allowed the Supplemental Report to be filed, but finds that the opinions stated in the Supplemental Report are largely repetitive and superfluous. The Court permitted Defendants to respond to Dr. Lamb's supplemental report, which they opted to do through an additional report by Dr. Hausman. This additional report is similarly repetitive and superfluous.

a. Plaintiffs' Response to TAR

In response to Dr. Church's report, Plaintiffs' urge the Court to afford no weight to the TAR. See DPP TAR Resp. at 1. Generally, Plaintiffs' argue that the report is of limited value, because it was constrained in a manner that did not allow it to consider record evidence outside of the expert reports and Summary Judgment opinion. Id.

More specifically, regarding Dr. Church's econometric conclusions, Plaintiffs' point out that Dr. Church agrees with Dr. Lamb that Dr. Hausman did not correctly apply the Hausman Test. Id. at 2. In addition, Plaintiffs argue that the Chow test is of limited value, and can very frequently find structural breaks where there are none. Id. at 4. Plaintiffs warn that overstating the practical import of the Chow test could threaten the use of virtually all regression models in antitrust cases. Id. Plaintiffs point out that regression analysis has been accepted and relied upon in several cases in this District. Id.

In addition, Plaintiffs argue that Dr. Church has virtually ignored their arguments regarding capacity utilization and its potential impact on Defendants' pricing power. Id. at 7. As a result, Plaintiffs contend that Dr. Church overestimates the effect that demand has on price. Id.

7–8. Relatedly, Plaintiffs argue that Dr. Lamb’s benchmark period is superior to Dr. Hausman’s in part because the capacity utilization in Dr. Lamb’s benchmark period more closely resembles the capacity utilization during the conspiracy period. Id. By using a longer benchmark, without controlling for capacity utilization, Plaintiffs argue that Dr. Hausman overestimates the effect that demand has on price. Id.

b. Defendants’ Response to Dr. Church and Dr. Lamb

Unsurprisingly, Defendants respond positively to Dr. Church’s TAR, and urge the Court to embrace Dr. Church’s opinion. Defendants repeat Dr. Hausman’s critiques of Dr. Lamb’s model, emphasizing that Dr. Church largely agreed with Dr. Hausman on several points. Defendants characterize the identified flaws in Dr. Lamb’s model as “fatal”, and argue that Dr. Lamb’s model should therefore be completely disregarded. Defendants emphasize that Dr. Lamb’s model is the key piece of Plaintiffs’ Motion, and argue that as a result, Dr. Church’s conclusions require the Court to deny certification.

E. Antitrust Impact: Application of Hydrogen Peroxide

This Court recognizes its duty under Hydrogen Peroxide to “rigorously” examine the competing facts and arguments set forth by Plaintiffs and Defendants on the key issue of whether antitrust impact can be adjudicated on a classwide basis. Antitrust impact has been defined as the existence of individual injury resulting from the alleged antitrust violation. See Comcast Corp. v. Behrend, 569 U.S. 27 (2013); see also In re Modafinil Antitrust Litig., 837 F.3d 238, 263 (3d Cir. 2016) (defining antitrust impact or injury as “an injury of the type the antitrust laws were intended to prevent and that flows from that which makes the defendants’ acts unlawful”).

The Third Circuit has held that the district court, in assessing the sufficiency of the evidence at the class certification stage, must determine the nature of the evidence, and how

plaintiffs would present this evidence at trial. See Hydrogen Peroxide, 552 F.3d at 311. This is, of course, the key factor in determining whether common questions predominate, and whether plaintiffs can prove classwide impact, in a trial setting, where testimony is received subject to the rules of evidence and cross-examination will take place.

For the reasons discussed below, the Court concludes that Plaintiffs have shown, by a preponderance of the evidence, that they can prove antitrust impact on a classwide basis. Thinking ahead to a trial, which Hydrogen Peroxide mandates as part of this analysis, Plaintiffs will likely present demonstrative charts which show clearly the increase in prices on two occasions: the price increase announced and followed by all Defendants effective January 2012, and the second increase effective January 2013. There is no expert, economist or otherwise, that can refute the significance and persuasive impact of these demonstrative charts.

However, the Court recognizes that the *cause* of the increase in prices is a key issue. Plaintiffs contend, with a good deal of testimonial and documentary support, that Defendants' alleged agreement to fix prices was the cause of the increase to all or virtually all purchasers, and thus that they have satisfied the test of proving antitrust injury on a classwide basis. Further, Dr. Lamb's regression analysis shows that the increase was due to the agreement of Defendants, and that all or virtually all purchasers were impacted.

Defendants assert that the increases in demand caused the increase in prices, notwithstanding any agreement to increase prices. Dr. Hausman's opinions tended to show, from an econometric perspective, that Dr. Lamb did not adequately or accurately account for the effect of demand. In analyzing this issue, the Court must delve into the subject matter of the conflicting opinions to determine what significance they may have from an antitrust point of view.

For the reasons outlined below, the Court concludes that Plaintiffs have carried their burden to show, by a preponderance of the evidence, that they will be able to prove impact on a classwide basis.

1. Non-Expert Evidence

In this case, Plaintiffs have discovered substantial documentary evidence, and also received deposition testimony, which the Court agrees will be admissible at trial. Virtually all of the documents secured from Defendants would qualify as business records under Federal Rule of Evidence 803(6). Certain documents from third parties were received in the record pursuant to third-party subpoenas issued under Federal Rule of Civil Procedure 45, often accompanied by deposition testimony, and thus Defendants have had the opportunity to cross-examine the witnesses. In addition, there were numerous depositions of Defendants' employees which are admissible, under Federal Rule of Evidence 801(d)(2), as a statement of an opposing party. The Court has previously summarized some of this evidence at summary judgment and in Part II, *supra*.

DPPs have highlighted some of this evidence, as well as additional evidence, in support of their theory of common antitrust impact. This additional evidence includes documents reflecting the alleged co-conspirators' business records that suggest that the price increases took place in the face of historically low demand, and were not related to market conditions. See DPP Mot. p. 46 & nn. 42–43 (citing Exhs. 41–45). In addition, Plaintiffs cite deposition testimony which supports the theory that the price increases had nothing to do with demand or market forces. See DPP Mot. p. 46 & n. 44. Further, Plaintiffs point to evidence that Defendants intended for the price increase to apply across the board to all customers. See DPP Mot. pp. 51–52 & nn. 49–52.

This evidence is important and relevant at the class certification stage. If a jury were to believe this evidence, it could support the conclusion that the price increases that took place in the drywall market in 2012 and 2013 were unrelated to market conditions. Further, it could conclude that Defendants intended for the price increases to apply to all customers nationally, and could also conclude that Defendants were pleased with the widespread effect of the increase. In addition, DPPs will undoubtedly call their expert who can also testify at trial as to economic and econometric issues.

2. Expert Evidence

As noted above, to further support their theory, Plaintiffs retained an economic expert, Dr. Lamb, whose reports have been summarized above. Defendants have forcefully attacked Dr. Lamb's conclusion with the support of a lengthy econometric analysis. It is important to emphasize, as summarized above, that Defendants' expert, Dr. Hausman, did not perform an independent regression analysis, but instead disputed the analysis done by Dr. Lamb. For example, Dr. Hausman uses a series of econometric tests to argue that Dr. Lamb did not adequately account for the effect of increasing demand at the end of the benchmark period. Defendants contend, with Dr. Hausman's support, that the increase in demand was the cause of the increase in prices, rather than any conspiracy.

Under Hydrogen Peroxide, the Court has the authority and the duty to make findings that may touch upon the credibility or weight to be given to the opinions of various experts. This holding in Hydrogen Peroxide was accompanied by a frank recognition of the difference between the duties of a district court judge in determining predominance of common questions, for Rule 23 purposes, and making findings that, particularly as to credibility, might impinge upon the duties and rights of a trial jury. The Tyson Foods opinion summarized above

emphasized these points, and the Court considers the Tyson Foods opinion to be, at least in part, effectively an adoption of the Hydrogen Peroxide Third Circuit opinion.

i. Undisputed Economic Issues

There are certain economic issues that are undisputed. It is undisputed that the domestic drywall industry is an oligopoly, drywall is a commodity product, and there are high barriers to entry in the industry. Because drywall is a commodity product, the competition is based largely on price. Further, it is undisputed that to show antitrust impact, the goal is to isolate the effect of the alleged conspiracy on prices paid for drywall. Both parties agree that a properly-implemented regression model is capable of isolating this effect. The Parties agree that relevant factors that go into determining the price for drywall are cost of inputs, cost to manufacture, cost to ship, and purchaser demand.

ii. Economic Disputes: Non-econometric Issues

Before getting to the more technical econometric issues, the Court addresses broader disputes raised by the experts. Although accepting Dr. Hausman's credibility in the sense that Dr. Hausman believes that his methods and opinions are correct, the Court gives little weight to his opinions on the following topics:

- (1) there is no national market for domestic drywall, but only a series of local or regional markets;
- (2) the "benchmark" period should begin in 2003 and proceed to 2011; and
- (3) capacity utilization among the drywall manufacturers at relevant times was not relevant.

a. National v. Local Market

Dr. Hausman wrote in his report, and testified at length, that in his opinion the market for drywall is highly local in nature. Hausman Suppl. Report ¶ 6; Tr. Apr. 25, 106:7–107:9. In Dr.

Hausman's view, this means that the antitrust impact of any alleged conspiracy cannot be measured on a classwide, nationwide, basis. However, as Plaintiffs' post-hearing brief notes, Dr. Hausman admitted that drywall "can travel" and is often shipped long distances. See, e.g., Tr. Apr. 25, 143:16-144:17. This admission contradicts Dr. Hausman's opinions on this topic. Further, there is significant evidence in the record to indicate the Defendants intended the price increase to take effect nationally and across the board.

For example, Dr. Hausman did not address the evidence uncovered by Plaintiffs that Defendants intended for the price increases to apply nationally and without exception. Dr. Hausman also ignored substantial evidence that the price increases were effective on a national basis, even for the largest customers. The Court does not dispute that simple economics would deter a purchaser from purchasing drywall where the shipment cost became too large. However, there appear to be a significant number of shipping points that would make a national market economically efficient, where shipping costs are in proportion to the points of supply. Hausman Report Fig. II-2.

There is also evidence that both Dr. Hausman and Dr. Lamb adjusted their analyses to make allowance for shipping at distances. Dr. Hausman had initially asserted that markets would have to be local, Hausman Suppl. Report ¶ 6, but his testimony at the hearing showed some retreat into a concept of "regional" markets. Tr. Apr. 27 at 143-144 (Hausman Cross).

If there is substantial evidence of pricing variations depending on regions, this would not necessarily impact antitrust injury on a nationwide class, but may require sub-classes for proof of damages, which could vary by region. This evidence may be sufficient to require sub-classes where purchasers in a particular region may have incurred greater increases than purchasers in

other areas. This can be dealt with by geographic sub-classes, if and when this case progresses, into calculation of damages, if warranted by the evidence.

On the issue of national versus regional supply and demand variables, Dr. Lamb ran both his primary regression and his purchaser impact model using 50 state regional variables which still demonstrated an impact on 98% of purchasers, reflecting over 99% of purchase volume and estimated an overcharge similar to the overcharge estimated using national supply and demand variables. Lamb Reply ¶¶ 54–58, 78–81.

Defendants’ own presentation at the hearing showed that demand in the 50 states was highly correlated and Defendants’ documents, together with Dr. Hausman’s concessions that price increases were imposed in every state and additional evidence showing similar price patterns across the United States, all support Dr. Lamb’s models using national demand and supply variables because these were not significantly different from Dr. Hausman’s regional variables. For these reasons, the Court gives more weight to Dr. Lamb’s conclusions.

b. Benchmark Period

The benchmark period has been conceptually defined as “normal” years against which an antitrust plaintiff compares alleged “conspiracy years” to show the impact of the conspiracy. Processed Egg, 312 F.R.D. at 195; see also Lamb Class Report ¶ 48. This Court interprets the benchmark period as the time period during which Plaintiffs will attempt to prove that drywall prices were “normal,” to compare with the alleged conspiracy period, in order to isolate the impact of a price-fixing agreement in violation of Section 1 of the Sherman Act. Plaintiffs have consistently advocated a fairly short benchmark period of two years (January 1, 2010 through December 31, 2011). Lamb Class Report ¶ 52. Plaintiffs allege that Defendants agreed to price increases effective January 1, 2012 and a second increase effective January 1, 2013, and that

Plaintiffs paid higher prices as a result of the illegal agreement. The “conspiracy period” is defined to be January 1, 2012 through January 31, 2013. Id. ¶ 13. The damages period is alleged to be January 2012 through December 2013. Id. ¶ 14.

Plaintiffs’ evidence, corresponding to these periods, as can be seen in Figure 1 to Dr. Lamb’s Class Report, shows all Defendants increased their prices by the same amount, effective on the same date, at the beginning of both 2012 and 2013. Id. at 15. This graph itself would likely be “Exhibit No. 1” in a jury trial of this case.

Defendants have advocated a much longer benchmark period, beginning in 2003, approximately nine years prior to the price increase which is the subject matter of this case. Defendants tend to ignore the evidence established in the summary judgment record that various individual defendants attempted price increases during this period, 2003-2011, but every such attempt was unsuccessful until January 1, 2012.

A price increase which was initially announced in September 2011 by one defendant (American), was quickly followed by announcements by all other defendants, to be uniformly effective as of January 1, 2012, and did become effective on that date. Indeed important, but largely ignored by Defendants and Defendants’ expert, the price increases were accompanied by termination of the traditional industry practice of “job quotes” which gave drywall purchasers price protection over a period of time for large volume purchases. Cf. Tr. Apr. 25 82:3-5 (Hausman Cross) (admitting that elimination of job quotes could help price increases stick).

Defendants’ lengthy proposed benchmark period has many defects. Importantly, from an economic perspective, during significant parts of this lengthy period, the Great Recession of December 2007 to June 2009, took place, and previous to the recession, there was also a “housing bubble” which according to the testimony, caused demand for, and sales of, drywall to

peak between 2005 and 2006, which was aberrant and unprecedented. Also during this period, Defendants had attempted individual drywall price increases which did not “stick.”

Dr. Lamb explained the reasons underpinning his choice of benchmark period as follows:

Q. Okay. And you said in your testimony that it wasn't appropriate to use the 2003 to 2009 data in your analysis, what was the basis of that?

A. Well, a couple of important things. First of all, it includes these two cataclysmic periods that we've talked about: the great recession and the housing bubble. And in addition to that, you don't really need to use those additional years because you have this period of time, 2010-2011, just adjacent to the class period that serves as an appropriate, reliable benchmark, 4.8 million observations, and you have that available to you, why would you want to include this period that's fraught with all of these problems, which even Dr. Hausman admitted in his analysis he has to try to correct for.

Apr. 27 Hrg. Tr., 159:12-25 (Lamb Redirect).

As to the “bubble” in housing, the Court gives weight to Dr. Lamb's testimony that Dr.

Hausman ignored a bubble in drywall, as follows:

A. No, I think he's [Hausman] really off base here at understanding the drywall market because the drywall market, as the Court found in the summary judgment opinion, is just inextricably linked to the housing market in terms of demand – the national housing market, but the housing market in terms of demand. You can't say that this incredible disequilibrium or abnormality in the housing market, that then somehow didn't have any effect on the drywall market.

And the way you see this when you actually look at the industry is the capacity utilization and the drywall market is off the charts in 2005 and 2006 at the peak of the housing bubble, and that's a critical factor that Dr. Hausman just ignores in his analysis completely. He admitted [in his testimony] that you should look at that effect – the non-linear relationship between capacity utilization and price, but he didn't do any of that in his analysis.

Tr. Apr. 27, at 160:9-24 (Lamb Redirect).

Dr. Hausman, Defendants' expert, who used this lengthy benchmark period to criticize Dr. Lamb's much shorter period, which was a very important topic for opinions in this case, testified quite candidly that he had no role in selecting this time period but it was given to him as a fact that he should assume. See Tr. Apr. 25, at 14:18-14:24; 16:16-17:17. The Court accepts Dr. Lamb's testimony for several different reasons, any one of which would be sufficient from an economics point of view, of supporting his benchmark time period in this case. See Lamb Class Report ¶¶ 53-55. Critical to the Court's determination on this issue is that Dr. Lamb exercised his economic fact-based expertise in selecting his benchmark period, whereas Dr. Hausman admitted to using a longer period, which is unsupported by the facts and was dictated, presumably, by counsel for Defendants.

The Court concludes that Defendants' benchmark period must be rejected. It not only is factually inapposite because it includes the Great Recession and housing bubble aberrations, but the circumstances require giving low weight to Dr. Hausman's opinions, to the extent that he used this time period through no exercise of his own expertise. In reaching this conclusion, the Court is not rejecting Defendants' contentions regarding benchmark period as issues of fact to be raised at trial, but believes that in assessing the sufficiency of Plaintiffs' evidence to determine whether antitrust injury can be proven on a classwide basis, the fact that Dr. Lamb has chosen a rational, fact-based benchmark period using his own expertise, and Dr. Hausman has not, gives a sufficient reason to find Dr. Lamb's opinion valid and capable of showing classwide impact.

c. Capacity

Plaintiffs have presented evidence that Defendants' witnesses, and third party documents, indicating that when capacity utilization was low in the drywall industry (meaning that the manufacturers had the ability to produce and sell more drywall), Defendants lacked pricing

power, even with an increase in demand. Dr. Hausman did not dispute the evidence that capacity was as high as 85-95% for many of his benchmark years, but was not nearly that high at any other time period relevant to the case including the damages period. Tr. Apr. 25, 55:1–56:22 (Hausman Cross); 220:5-9 (Hausman Re-cross)

Because there was so little excess capacity when demand increased during the housing bubble, drywall prices responded dramatically to changes in demand during that period. The Court finds that this makes Dr. Hausman's opinions overly sensitive to changes in demand because he essentially built into his opinion demand sensitivity that is only valid when capacity utilization is above 85%. As a result, the Court agrees with Plaintiffs that Dr. Hausman's opinions are not reliable to assess how drywall prices would respond to changes in demand and when capacity utilization is at or below 60% as Hausman conceded it was throughout both the damages period and Dr. Lamb's benchmark period. Tr. Apr. 25, 56 and 59.

The significance in capacity has influencing behavior and also impacting econometric analysis, was described by Dr. Lamb, as to the bubble period as follows:

Q. Now, if – with respect to the bubble period, [Dr. Hausman] says that your demand variable or the demand variable in your model will take into account whatever the demand was during the bubble period, and so he doesn't need to control for it in his model. Is that right?

A. No, I disagree with that. Because it's a bubble – there's a reason we call it a bubble. And the reason is because it's a period of incredible disequilibrium. And that disequilibrium or abnormality spills over into markets that are touched by housing. The mortgage market, for example, would be another place to look at that. But in the drywall market where drywall demand is driven by its use in houses, the fact that construction of houses is off the charts and prices of houses is going off the charts, means that you can't control for it in the same way that you would in normal economic times. It's just not normal economic conditions.

Q. Now, you heard Dr. Hausman testify on Tuesday that changes in demand might affect prices differently when capacity utilization is at the super high levels it attained during the bubble years than when it pertained during the conspiracy period. You can see that as you mentioned a moment ago, that the relationship might be non-linear. Can you explain what that means and why that matters?

THE COURT: Explain what – so it’s clear, what you mean by non-linear.

A. One way to think about it . . . we talked a lot about the indicator variables, and turning them on, and turning them off today.

[T]hink of the non-linear relationship between capacity utilization and price the same way. If capacity utilization is 40% or 50% or 60%, the Defendants say we don’t have any pricing power in the market. We can’t pass on costs. We can’t really deal with higher demand. We just don’t get to do much in terms of pricing. But the Defendants say when capacity utilization goes above 80 or 85%, then suddenly we’ve got pricing power in the marketplace. And it’s sort of like that variable – that effect, rather, gets turned on once capacity utilization is above 80%, let’s say, and it’s turned off otherwise. That’s what we mean by non-linearity there. You can’t draw a straight line between the level of capacity utilization and say that’s the way it affects price.

Tr. Apr. 27, 161:11–163:6 (Lamb Redirect).

The evidence requires the Court to give low weight to Dr. Hausman’s opinions as incapable of accurately predicting prices during periods where capacity utilization is far below the threshold for pricing power including the entire damages period in this case. Tr. Apr. 27, 164–165, 188–189 (Lamb Redirect).

iii. Economic Disputes: Econometric Issues

The Court appreciates Dr. Church’s ability to translate a good deal of the econometric lingo into plain language, which was one of the primary reasons for retaining a technical advisor. Dr. Church disagreed with Dr. Hausman’s opinions that Lamb’s regression analysis conclusively

suffers from “measurement error,” but agreed with Dr. Hausman’s conclusions that the Lamb regression analysis failed two other econometric tests, the Chow test and the F-test, and for these reasons concluded that Lamb’s regression analysis was not “reliable.”

The Court notes Plaintiffs’ disagreement with those opinions, but is not prepared to dispute Dr. Church’s opinions on these tests. However, the Court has a responsibility to determine whether these conclusions are sufficient to find that common issues do not predominate, meaning that the requirement of antitrust injury cannot be proven on a classwide basis. Under Hydrogen Peroxide, the Court has the obligation to make factual findings and resulting legal conclusions on these issues.

a. Importance of Econometric Tests

As a legal issue, there is little precedent for rejecting an expert regression analysis for the specific reason of an opposing expert opinion that it failed the Chow test, Hausman test or the F-test. However, Judge Zagel did precisely that in denying direct purchasers’ motion for class certification in In re: Steel Antitrust Litigation, No. 08-c-5214, 2015 WL 5304629 (Sept. 9, 2015). Thus, this is a somewhat novel legal issue, although Defendants contend that Dr. Lamb’s regressions must be rejected because they fail these two tests.

In Steel, the direct purchaser plaintiffs alleged that the defendants, who were domestic steel producers, conspired to restrict the output of their steelmaking furnaces, which had the effect of raising the price of steel goods purchased by DPPs. The defendants in that case sold “a large variety of product types” that were used in different applications, and were sold in different shapes, with different chemical properties, different rigidity, etc. As a result, the direct purchaser class also varied widely in size, industry, etc. To show impact, the plaintiffs’ expert divided steel products into 25 product categories, and then ran separate regression tests for two broad

categories: flat products and long products, finding a single average overcharge for each type of product. Dr. Hausman, acting as defendants' expert in Steel, attacked plaintiffs' model on the same bases as he advances here – the Hausman test, Chow test, and F-test. However, in Steel, there were even more fundamental disputes between the experts, even with respect to the way the steel industry functioned economically. Broadly, from an economic theory perspective, even if Defendants had successfully restricted output at their furnaces, it was disputed whether that successful restriction would have actually had the effect of raising prices for direct Purchasers.

Thus, the facts in Steel are significantly different than the ones in our case. The Court does not necessarily find that a Chow test or an F-test is irrelevant, and indeed may be very relevant on these issues and may be determinative in some cases, as Judge Zagel concluded. However, in this case, the Court believes that there is more weighty evidence that supports Plaintiffs' contentions, at least for purposes of the Rule 23 and Hydrogen Peroxide analyses.

b. The Principal Issue – Demand

After review of the competing expert reports, the testimony of the experts, and the report of the court-appointed Technical Advisor, it is clear to the Court that the key area of disagreement between the two experts is whether Dr. Lamb accurately accounts for the effect that demand has on the price of drywall. That is, whether he accurately measures the significance of “demand” for drywall at various periods, and more specifically, the relationship of demand to price over a period of time.

This gets to the key issue in the case – whether Dr. Lamb's model can sufficiently separate the effect of the conspiracy from the effect of increasing demand during the class period. Dr. Hausman opines that it cannot, because of various defects with Dr. Lamb's model. Dr. Hausman's critiques can be divided into two categories:

- (1) Dr. Hausman opines that Dr. Lamb's model suffers from measurement error with respect to the demand variable, because he improperly used a national demand variable rather than local demand variables; and
- (2) Dr. Hausman opines that Dr. Lamb's model does not accurately estimate the relationship demand has on price, because his benchmark period does not provide sufficient variability in demand to allow his model to accurately estimate demand's effect on price.

Dr. Hausman's opinion on these topics is intertwined with his econometric findings with respect to Dr. Lamb's model— i.e., the results of his Hausman test, F-test, and Chow Test. The first test relates to the first category of critiques; the latter two, to the second category. Dr. Lamb responds to all of Dr. Hausman's critiques in his Class Report, his Reply Report, and in his testimony.

1) Category 1: Measurement Error

With respect to the first category of critiques, Dr. Hausman argues that Dr. Lamb's model suffers from measurement error, and argues that the reason for this is that Dr. Lamb uses national, instead of local (or regional) demand and supply variables. He opines that the application of the Hausman test reveals that Dr. Lamb's model suffers from measurement error, and therefore, the model necessarily does not adequately account for the effect that demand has on price, overestimating the effect of the alleged conspiracy.

In response, Dr. Lamb argues that Dr. Hausman has not applied his eponymous test accurately, and has not shown that Dr. Lamb's demand variable is measured with error. Lamb Reply ¶¶ 69-77; accord TAR ¶ 123. In addition, Dr. Lamb provides his reasoning for using national supply and demand variables, citing evidence that the drywall market is a national one.

Lamb Class Report ¶ 65; Lamb Reply Report ¶¶ 37–41. This includes a survey of record evidence indicating that Defendants considered the market to be national in scope, and intended for the price increases to apply across the board. Lamb Reply Report ¶¶ 37, 40, 41. In contrast, Dr. Lamb argues that Dr. Hausman has not provided any economic basis for his opinion that the drywall market is local. Lamb Reply Report ¶ 43. To be sure, as DPPs point out in their post-hearing brief, and as discussed *supra*, Dr. Hausman all but admitted that the Drywall market was not local. DPP Post Hrg. Br., ECF 595 at 12–13. In Dr. Lamb’s reply report, he notes that the results he gets in his model largely do not change when he substitutes Dr. Hausman’s regional demand variables into his model. Lamb Reply Report ¶ 36.

2) *Category 2: Structural Break*

Turning to Dr. Hausman’s second category of critiques, Dr. Hausman opines that Dr. Lamb’s model does not depict the true relationship between demand and price, and overestimates the effect of the alleged conspiracy during the class period. Dr. Hausman attributes this failure to Dr. Lamb’s choice of benchmark period, arguing that his benchmark period does not provide sufficient variability in demand to allow his model to accurately estimate demand’s effect on price. Dr. Hausman substantiates this opinion through his application of an F-test and Chow test, which, in theory, assess Dr. Lamb’s model’s ability to accurately describe the relationship between demand and price during the class period. It is Dr. Hausman’s opinion that these tests indicate that there is a “structural break” between Dr. Lamb’s benchmark period and the class period. The existence of a structural break means that the relationship between demand and price was different in the benchmark period than it was during the class period, making Dr. Lamb’s model unable to assess the impact of demand on price in the class period.

In response, Dr. Lamb reiterates his reasoning underpinning his choice of benchmark period. Principally, Dr. Lamb expresses the opinion that a benchmark period that includes the great recession or the housing bubble is not a good economic analog for normal market conditions, a position that Dr. Hausman has endorsed in the past. Lamb Reply Report ¶¶ 82, 90, 191. Further, Dr. Lamb opines that it is best to use a benchmark period that is close in time and similar in market structure and conditions as the damages period. Lamb Reply Report ¶ 186. Viewed from this lens, Dr. Lamb provides evidence that his two-year benchmark period is superior to the longer benchmark period selected arbitrarily by Dr. Hausman. Lamb Reply Report ¶¶ 82, 187, 191. Dr. Lamb also discounts the value of Dr. Hausman’s econometric tests, noting that the Chow test in particular is overly prone to detecting structural breaks where none exist. Lamb Reply Report ¶ 98.

c. Analysis of Econometric Issues

The Court concludes that Dr. Lamb has sufficiently responded to Dr. Hausman’s critiques outlined above. In so holding, the Court does not conclude that Dr. Lamb is necessarily “correct” but rather that he has presented sufficient evidence from which a jury could conclude that all or nearly all Plaintiffs were impacted by Defendants’ alleged agreement to fix prices. This supports the conclusion that Plaintiffs have shown, by a preponderance of the evidence, that they can prove antitrust impact on a classwide basis.

1) Structural Break and Chow Test

As a consequence of his application of the Chow Test and F-Test, Dr. Hausman concludes, and Dr. Church agrees, that a “structural break,” (fundamental change in the relationship between demand and price in the drywall market) must exist between Dr. Lamb’s benchmark period, and his class period. In particular, Dr. Hausman argues that there is

insufficient variation in demand in Dr. Lamb's benchmark period for his model to accurately measure the effect of demand in the conspiracy period. As a result, Dr. Hausman concludes that a regression analysis using Dr. Lamb's benchmark period lacks the ability to isolate the effect of the conspiracy on prices, and therefore it cannot reach any conclusions that the increases in prices were caused by the conspiracy rather than the changes in demand.

Dr. Lamb responded to this criticism as follows:

Q. Dr. Lamb, you heard Dr. Hausman testify that he believed there was a structural break between . . . your benchmark period and the conspiracy period. [Could you] summarize what a structural break is and give your opinion as – about whether there actually is a structural break during that period.

A. A structural break . . . it's a period of time when something changes in the model that isn't accounted for by anything else in the model. All right, so it's something where you've got a real – a fundamental change that isn't being picked up by the variables. I don't believe that Dr. Hausman's analysis of the structural break between the benchmark period and the damages period is sound. If it is, then I think he's finding that there's a cartel. . . .

Q. Let me back up just a second. What did Dr. Hausman use to test for a structural break between your benchmark period and the conspiracy period?

A. So he used the Chow test for that.

Q. Did he use that accurately in your view?

A. No . . . [expresses the opinion that the chow test is overly sensitive in this circumstance]

Q. Dr. Hausman agreed that in order to run a Chow test, you need to have a good reason. Was he right about that?

A. That's right. And that's a critical thing here. . . . I don't believe he's got any valid reason for arguing that there's a structural break in the model between my damages period and my cartel period.

Tr. Apr. 27, 180:2–182:3 (Lamb Redirect).

Dr. Lamb emphasizes in his Reply Report that the Chow test, though frequently used in econometrics, is overly sensitive. He illustrates this by pointing out that the Chow test would find a structural break in 43 out of 44 quarters of Dr. Hausman's benchmark and conspiracy periods. See Lamb Reply Report ¶ 98. If believed by the jury, this evidence could suggest that the Chow test is not foolproof. In further response, in his Supplemental Report, Dr. Lamb adjusted his model to allow it to account for any structural break that may exist. This adjusted model resulted in similar results as his original model. See Lamb Suppl. Report p. 21, Table 1.

One may conclude, from Dr. Hausman's testimony, Defendants' arguments, and Dr. Church's report, that in this case the structural break has made it impossible to have a defensible regression study as to the impact of the agreement on price, unless Lamb's benchmark period is enlarged. One could also conclude that the Chow test should be afforded little weight. In any case, the Court is not convinced that the potential existence of a "structural break" forecloses the possibility of showing impact on a classwide basis via regression analysis. When viewed with the totality of the evidence the Court believes that Plaintiffs have proven, by a preponderance of the evidence, that they can show classwide impact. As a result, the Court believes the better course is to allow Dr. Lamb's opinion and testimony, and also Defendants' evidence, and allow the jury to conclude which is more persuasive on the merits, in terms of the existence or non-existence of liability.

2) Benchmark Period

Related to Dr. Hausman's structural break discussion is Dr. Hausman's critique of Dr. Lamb's selection of benchmark period. That is, Dr. Hausman opines that demand in Dr. Lamb's benchmark period was not sufficiently varied to capture the effect of changing demand.

However, Dr. Lamb's testimony shows that he considered and sought to capture the effect of changes in demand.

Q. Dr. Hausman has suggested that demand was not significantly volatile during your benchmark period for it to be an appropriate benchmark. Does that argument have validity, and I've included in your binder Tab E. Take a look at that. It's figure 2 from your class report. You might want to refer to that in your answer about whether demand during your benchmark period is sufficiently volatile.

A. . . . What it shows is that demand, as measured by my demand index, is going up and down during the benchmark period.

But the important thing is that the way the multiple regression works . . . the variation in model, it's the variation in demand throughout the benchmark and damages period. And so you see demand going up and down and up and down. There's quite a bit of variation there, so . . . it's a perfectly valid demand variable. And in fact, if it weren't you'd see that in the results of the regression itself.

Tr. Apr. 27, 170:22–171:16 (Lamb Redirect)

Dr. Lamb further demonstrated that his benchmark period measures demand more accurately than Dr. Hausman's would, as follows:

Q. What was demand like during Dr. Hausman's benchmark?

A. . . . what's really different when you look at the demand index is not my benchmark period versus the damages period. It's Dr. Hausman's benchmark period versus the entire period of my benchmark and the damages period.

The demand was off the charts in 2005. In 2006 it was falling precipitously throughout that period. And you're comparing that to a period of time in 2010 to 2013 when demand is much, much lower, always near historic lows relative to recent experience. And also when demand is either flat or increasing over the period. So that's where the real difference is.

Q. So, Dr. Lamb, is there some kind of sanity or common sense check you can do or have done to see whether your model or

Dr. Hausman's specifications are correctly predicting what would have happened to prices during the conspiracy period?

A. Yeah, right, this is in my mind the easiest way to understand a lot of this very technical material. Prices went up during the period from 2012 to 2013, over that 24 month period, nearly 50%. Demand was rising throughout that period. Both Dr. Hausman and I agreed with that. We both tried to account for it. Demand went up about 25, 26%, Your Honor. Cost was going down a little bit. And capacity utilization was always in – below 60% in any measure that I've seen. It's always way below that 80% threshold. So there's no model that Dr. Hausman's written down that makes any sense or no model an economist would look at where you would explain a 50% price increase by a 25% increase in demand when cost is really falling over that time period.

That's a sanity check on Dr. Hausman's analysis that in my mind is pretty telling.

Tr. Apr. 27, 171:23–173:3 (Lamb Redirect).

Q. . . . [W]hat do you believe that putting in these – this period of super high capacity utilization does to the sensitivity of the demand function in Dr. Hausman's results?

A. . . . [B]ecause Dr. Hausman doesn't have a capacity utilization variable, he doesn't have any way to pick up the effect of high capacity utilization in his model. But high capacity utilization during his benchmark period is correlated, it goes with higher demand. And so it causes his demand variable to pick up the effect of high capacity – really extremely high capacity utilization. And that causes his model to suffer from a kind of bias. It's sort of incontrovertible. It's omitted variable bias. He left out an important variable. He has not accounted for it. And, therefore, this demand coefficient is over-emphasizing changes in demand.

Tr. Apr. 27, 164:16–165:7.

3) Importance of Capacity Utilization

Related to Dr. Lamb's testimony just referenced above, and as discussed *supra*, the Court also believes that capacity utilization is an important factor in analyzing this case. In particular,

it is important to consider the evidence presented by Plaintiffs regarding capacity utilization's effects on price and pricing power. Dr. Lamb argues that by not taking into account capacity utilization as a factor that can affect price, Dr. Hausman overstates the impact that demand has on price. See Tr. Apr. 27, 164:16–165:7. This is a further, valid, response to Dr. Hausman's contention that Dr. Lamb understates the effect demand has on price. It is also notable, and surprising, that Dr. Church's report does not comment on the effect of capacity utilization.

Dr. Hausman's failure to account for the effect that capacity utilization has on price is another example of his failure to take into account the factual record in this case. Plaintiffs point to documents and testimony indicating that Defendants believed that capacity utilization across the industry affected price, and pricing power. If Defendants believed capacity utilization to be important, it is surprising that Defendants' expert does not find it equally important.

d. Summary of Conclusions on Economic Issues

The overall evidence shows that Dr. Hausman's opinion about "measurement error" was not supported by Dr. Church and, of course, disputed by Dr. Lamb. Thus, the Court feels comfortable in concluding that there was not a "measurement error" that would make Dr. Lamb's model unusable. However, on the two other tests, the Chow test and the F-test, although Dr. Lamb disputes that his analysis fails either when applied correctly, Dr. Church agreed with Dr. Hausman.

The undersigned is legally trained, but is not skilled in econometrics. Although I have given more weight to Dr. Lamb's opinions on most of the disputes, I cannot, despite careful reading of the materials, conclude who is "right" about the Chow or F-test. However, I have determined that even if Dr. Hausman is correct about these tests, Dr. Lamb has responded sufficiently to his criticisms.

The final decision is that the mere existence of a structural break does not deprive Plaintiffs of arguments that would allow a jury to determine that all or nearly all Plaintiffs suffered antitrust impact. The Court is not necessarily concluding that Hausman's opinions and the Defendants' contentions about the Chow test and the F-test are inaccurate, or are irrelevant, but is concluding that they do not overcome Plaintiffs' other evidence which proves by a preponderance that DPPs can show antitrust injury on a classwide basis.

Econometrics aside, let there be no mistake that the concepts of "demand" and "price" are not difficult for a judge or a lay juror to understand. There is also little problem for the experienced counsel, on both sides in this case, to present the underlying facts on demand and price to a jury in an understandable way, through charts or other demonstrative means. From a trial juror's point of view, it should not be a great deal of trouble to determine, assuming changes in demand were proven, and assuming that a price fixing agreement was also proven, whether the cause of the price increase was just demand, or just the agreement, or something else, or both. As long as the jury finds the conspiracy was a "material" cause of increased prices, Plaintiffs will be entitled to damages. In re Lower Lake Erie Iron Ore Antitrust Litig., 998 F.2d 1144, 1183 (3d Cir. 1993).

The Court's conclusions here do not mean that it has blessed Dr. Lamb's opinions with holy water, but only that his opinions and testimony are entitled to more weight than Dr. Hausman's, in large part because his opinions adhere to the factual record.

3. Conclusion: Antitrust Impact

For all of the above reasons, the Court concludes that, by a preponderance of the evidence, Plaintiffs have shown that antitrust impact can be proven on a classwide basis. This conclusion does not necessarily mean that the jury has to accept Plaintiffs' theory, but only that

Plaintiffs have satisfied the requisites of Rule 23 as interpreted by Hydrogen Peroxide and Tyson Foods. The substantive issues of liability remain for the jury to decide. At trial, DPPs will proceed with their testimony, documentary evidence, and presumably call Dr. Lamb to present his regression analysis. If the jury were to believe that, and dispute Defendants' reliance on Dr. Hausman or other econometric evidence, the jury would likely find that under appropriate instructions from the Court, that DPPs have proved antitrust injury. If the jury accepted Dr. Hausman's opinions, and/or rejected Dr. Lamb's, there will likely be a verdict for Defendants, and a conclusion that Plaintiffs were not injured by any agreement. But the ultimate issues that the jury decides must be considered separate from the Court's obligation under Hydrogen Peroxide and Tyson Foods to review all of the evidence, not just rely on contested opinions of econometric failures.

Class actions are often used and sometimes abused. However, they have become part of the legal landscape. The mechanisms of Rule 23 have been approved in decisions by the Supreme Court and, through the actions of Rules Committees, class actions flourish as long as they comply with Rule 23. In antitrust cases, there are numerous incidences, often settlements, where over many years, billions of dollars have been paid by defendants who fixed prices, and transmitted as damages to consumers who paid elevated prices because of price-fixing conspiracies. In this sense, class actions fuel the policies of our antitrust laws.

In this case, evidence reviewed extensively during this litigation has been accumulated that would allow a jury to find that an agreement to fix prices existed and that DPPs were impacted by the agreement. If a jury were to agree, treble damages could be recoverable from the Defendants.

One thing the Court does not think would be appropriate under Hydrogen Peroxide or any other appellate case reviewing these issues, would be to deny a class action merely because one or two econometric tests may warrant one opinion. Rejecting Dr. Lamb’s regression analyses, which appear to follow accepted regression methodology, is inappropriate, even in this unique circumstance of an alleged structural break. Accepting Defendants’ arguments would be an elevation of econometric doctrine over common sense application of facts received in evidence, and satisfying well-established legal standards.

F. Measurable Damages

To satisfy the predominance requirement of Rule 23(b)(3), Plaintiffs must, in addition to showing classwide antitrust impact, demonstrate that common issues predominate as to the element of “measurable damages.” Hydrogen Peroxide, 552 F.3d 305, 311-12 (3d Cir. 2008) (citing Newton v. Merrill Lynch, 259 F.3d 154, 188 (3d Cir. 2001) (“In antitrust . . . actions, proof of injury (whether or not an injury occurred at all) must be distinguished from calculation of damages (which determines the actual value of the injury.”) (internal citations omitted)). Therefore, the Court must consider whether “there is a classwide method for proving damages, and if not, whether individual damage determinations will overwhelm the common questions on liability and impact.” Kleen Prods. LLC v. International Paper Co., 831 F.3d 919, 929 (7th Cir. 2016).

1. Legal Framework

The relevant Third Circuit case law reveals two key inquiries regarding whether this requirement has been satisfied: (1) whether, under Comcast Corp. v. Behrend, 133 S. Ct. 1426 (2013), plaintiffs’ theory of classwide damages is adequately linked to their theory of antitrust

impact; and (2) whether plaintiffs' damages model is inadequate if it provides only average/aggregate damages, rather than allocating damages owed to individual class plaintiffs.

i. Comcast Issues

The Supreme Court's recent decision in Comcast clarified one of the key requirements of the damages prong of the Rule 23(b)(3) predominance inquiry. Comcast was an antitrust suit brought by a class of Comcast subscribers. The plaintiffs initially had four theories of antitrust impact: (1) "Comcast's clustering made it profitable for Comcast to withhold local sports programming from its competitors"; (2) "Comcast's activities reduced the level of competition from 'overbuilders'"; (3) "Comcast reduced the level of 'benchmark' competition on which cable customers rely to compare prices"; and (4) "clustering increased Comcast's bargaining power relative to content providers." Comcast, 133 S.Ct. at 1430–31. Their damages model, however, "did not isolate damages resulting from any one theory of antitrust impact," *id.* at 1431, and simply "assumed the validity of all four theories of antitrust impact," *id.* at 1434. The district court limited its certification order to the overbuilding theory because it was the only theory of antitrust *impact* capable of classwide proof, but found the predominance requirement to be satisfied even though the damages model was not altered to reflect that single remaining theory of harm. *Id.* at 1431. A divided panel of the Third Circuit affirmed.

The Supreme Court reversed, holding that while the damages model does not need to be exact, "a model purporting to serve as evidence of damages in [a] class action must measure only those damages attributable to that theory. If the model does not even attempt to do that, it cannot possibly establish that damages are susceptible of measurement across the entire class for purposes of Rule 23(b)(3)." *Id.* at 1433. Because the plaintiffs' damages model reflected injury from all four alleged antitrust violations—and because only the overbuilding theory of antitrust

impact remained—the damages model was unable to “bridge the differences between supra-competitive prices in general and supra-competitive prices attributable to the deterrence of overbuilding.” *Id.* at 1435. The Supreme Court explained, “[p]rices whose level above what an expert deems ‘competitive’ has been caused by factors unrelated to an accepted theory of antitrust harm are not ‘anticompetitive’ in any sense relevant here.” *Id.*

It is important not to overstate Comcast’s application to cases with dissimilar facts. Since Comcast, the Third Circuit has clarified that “the predominance analysis [in Comcast] was specific to the antitrust claim at issue” there, Neale v. Volvo Cars of N.A., LLC, 794 F.3d 353, 374 (3d Cir. 2015), and that Comcast does not stand for the broad proposition “that damages must be ‘susceptible of measurement across the entire class for purposes of Rule 23(b)(3).’” Modafinil, 837 F.3d at 260 (quoting Neale, 794 F.3d at 374); see also In re Deepwater Horizon, 739 F.3d 790, 815 & n.104 (5th Cir. 2014) (“It is a “‘misreading of Comcast’ to interpret it as ‘preclud[ing] certification under Rule 23(b)(3) in any case where the class members’ damages are not susceptible to a formula for classwide measurement.’”); In re Nexium Antitrust Litig., 777 F.3d 9, 23 (1st Cir. 2015) (“Comcast did not require that plaintiffs show that all members of the putative class had suffered injury at the class certification stage—simply that at class certification, the damages calculation must reflect the liability theory.). Rather, “[e]very question of class certification will depend on the nature of the claims and evidence presented by the plaintiffs.” Neale, 794 F.3d at 374.

ii. Aggregation vs. Allocation

“At the class certification stage, the plaintiffs are not required to prove damages by calculating specific damages figures for each member of the class, but rather they must show that a reliable method is available to prove damages on a classwide basis.” In re Wellbutrin XL

Antitrust Litig., 282 F.R.D. 126, 144 (E.D. Pa. 2011). “Plaintiffs must show that there is a reliable means for measuring damages with reasonable accuracy in the aggregate.” Processed Egg Products, 312 F.R.D. at 202; see King Drug Co. v. Cephalon, Inc., 309 F.R.D. 195, 212 (E.D. Pa. 2015) (“Courts have held that proof of aggregate damages is appropriate in class actions.”) (internal citations omitted). Additionally, “[c]alculations need not be exact . . . but at the class-certification stage (as at trial), any model supporting a plaintiff’s damages case must be consistent with its liability case, particularly with respect to the alleged anticompetitive effect of the violation.” Comcast, 133 S. Ct. at 1433 (citations and internal quotation omitted).

iii. *Example of Treatment of Damages issue at Class Certification: Processed Egg*

In Processed Egg, discussed at length *supra*, plaintiffs’ expert, Dr. Rausser employed the same “common factors” regression model that he used to show antitrust impact as a way to measure damages.

a. Comcast Issues

In challenging the legitimacy of Dr. Rausser’s regression model, defendants argued that, under Comcast, plaintiff’s expert was required to “first measure the extent to which defendants’ actions decreased the supply of eggs and then measure the effect on the price,” in order to make sure that the theory of impact matched the theory of damages.

Judge Pratter rejected the notion that Comcast required such a deep dive into the merits at the class certification stage. She reasoned, “the posture of the case is different from Comcast, because none of the alleged means of reducing the supply of eggs have been found inappropriate for class treatment.” Processed Egg, 312 F.R.D. at 192. Because supply reduction remained a component of the overall conspiracy to increase price, this case “is in the realm contemplated by the Supreme Court when it reasoned that ‘[t]his methodology might have been sound, and might

have produced commonality of damages, if all four of those alleged distortions remained in the case.” Id. at 192 (quoting Comcast, 133 S. Ct. at 1434).

Judge Pratter elaborated, “[p]laintiffs have shown that common evidence is capable of demonstrating that [d]efendants engaged in a series of complementary supply-reducing actions as part of a conspiracy to increase the price of eggs.” Id. at 193. The fact that those “complementary” actions—including “(1) a series of explicit, short-term production restriction programs, such as slaughtering prematurely; (2) a pretextual animal-welfare program; and (3) a series of exports of eggs at below-market prices”—were distinct/enumerable did not make them independent theories of liability such that the plaintiff’s model “would have needed to have been able to isolate [any] single theory’s effects from the effects of the [other] theories[.]” Id. Accordingly, whereas in Comcast, “in order to achieve a reasonably accurate measure of damages, one would have needed to determine, individual-by-individual, which of the four harms affected which class member and by how much,” in this case, there was no need to “disaggregate each alleged anticompetitive action [such as supply reduction] and isolate its effect.” Id.

While defendants were, of course, free to argue at trial that the price increase was not, in fact, attributable to supply restrictions, so long as supply restriction remained a viable theory of antitrust impact, Comcast was satisfied because the impact and damages theory “matched.”

b. Aggregation

With respect to the model calculating damages in the aggregate, the court in Egg Products held that the plaintiffs’ damages calculation—which involved a calculation of “the difference between the illegal price that was actually charged and the price that would have been charged ‘but for’ the violation multiplied by the number of units purchased”—was “a reliable

means for measuring variations in damages between and among class members[.]” Id. at 203. This aggregated calculation did not defeat predominance, since “at the class certification stage, the plaintiffs are not required to prove damages by calculating specific damages figures for each member of the class, but rather they must show that a reliable method is available to prove damages on a classwide basis.” Id. (quoting Vista Healthplan, 2015 WL 3623005, at *22-23 (“Circuit courts have largely rejected the interpretation urged by Defendants—that variations in damages calculations between and among class members defeat predominance.”)). Accordingly, the court held that the plaintiffs’ expert did not “need[] to account for the differences in damages of different class members with respect to the effects of the alleged exports.” Id. at 203.

2. Analysis: Measurable Damages

Plaintiffs have shown, by a preponderance of the evidence, that they will be able to prove measurable damages on a classwide basis. The issues preventing certification in Comcast are not present here, because Plaintiffs present one theory of antitrust impact: Defendants agreed to fix prices, and the prices went up, impacting the buyers of drywall. See Modafinil, 837 F.3d at 262. The damages alleged by Plaintiffs relate directly to this price fixing scheme. Though there are various actions alleged by Plaintiffs that contributed to the effectiveness of the conspiracy, such as the elimination of job quotes, these separate actions are alleged to have contributed to the overall scheme, and do not form the basis of separate theories of liability. Cf. Processed Egg, 312 F.R.D. at 193 (holding that the different supply restriction techniques contributed to the goal of restricting supply to raise prices).

Like the plaintiffs’ expert in Processed Egg, Dr. Lamb’s damages model here utilizes the same regression model he developed to demonstrate antitrust impact. Dr. Lamb, like Dr. Rausser

in Processed Egg submits a formula to be used to allocate the aggregated damages. At this stage, the model is a workable damages model. The viability of this model is discussed at length, *supra*, and the analysis is no different in the damages context. At this stage, there is no need to show individual damages for individual Plaintiffs. It is sufficient to recognize that Dr. Lamb's model allows for classwide proof of measurable damages. Therefore, common issues predominate on the question of measurable damages.

This determination is made without prejudice to the Court later deciding to divide the certified class into sub-classes for purposes of damages determinations. These subclasses could be based on purchaser size, type, or geographic location.

The predominance requirement is satisfied.

V. Conclusion

The court concludes that Plaintiffs have satisfied their burden of proof for class certification, and that counsel shall proceed to implement the notice provisions of Rule 23. An appropriate order follows.

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